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ABSTRACT

The purposes of this study are to: (1) design an Instrument that assesses children's attitudes toward the elderly (CATE) and the aging process; (2) employ this instrument; and (3) use the information obtained to develop a curriculum guide. The CATE was developed to examine the cognitive, affective, and behavioral components of children's attitudes. It was administered to 180 children in nursery school through sixth grade, with 20 children randomly selected from each age level. Chi-Square, T-tests, ANOVA and correlational techniques were utilized. Results suggest that; (1) children at all age levels have limited knowledge of older people; (2) children gave few positive responses about growing old themselves, and did not perceive being old as positive; (3) children of all age levels were able to identify the oldest man in a series of photographs depicting men of different ages; (4) attitudes of children toward the elderly show a mixture of positive feelings, and either stereo-typic or negative attitudes about the physical aspects of age; and (5) in Piagetian conservation tasks, children's concept of age were significantly correlated with conservation scores. (Author/JLL)

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FINAL REPORT

CHILDREN'S ATTITUDES TOWARD THE ELDERLY

July, 1976

Submitted to

The American Association of Retired Persons

National Retired Teachers Association

by

Center on Aging
Division of Human and Community Resources

Department of Early Childhood/Elementary Education

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We wish to give special recognition to the children of the Charles County School System and the Center for Young Children, College of Education, University of Maryland, who willingly took time from their scheduled school activities to talk with us, and share their ideas about growing old and their perceptions of the elderly. We are also deeply thankful to the teachers, principals and coordinators of Charles County Schools for demonstrating their high degree of professionalism and dedication to improving the quality of education for children through their assistance in this study.

Without the support and resources of the Department of Early Childhood/ Elementary Education, College of Education, and the Center on Aging, Division of Human and Community Resources, University of Maryland, it would not have been possible to bring this study to successful completion. Our sincere thanks to the Department and Center on Aging.

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Richard K. Jantz
Carol Seefeldt
June 1976

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CHAPTER I

INTRODUCTION

In view of our rapidly aging population and the extended functional effectiveness of persons in the middle and later years, it seems critical that educators begin exploring methods of guiding young children in developing positive attitudes toward the elderly and aging. Intimately involved in the process of aging themselves, young children should be able to develop positive attitudes toward aging and the elderly that will allow them to live fully all their life.

Before planning curriculum models, methods or materials that would develop children's understandings and positive attitudes toward aging and the elderly, it seemed necessary, however, to have knowledge of what attitudes children hold toward aging and the elderly. Therefore, it was the purpose of this study to 1) develop an instrument designed to assess children's attitudes toward the elderly and the aging process, 2) employ this instrument with children ages 3 - 11, and 3) use the information obtained to develop a curriculum guide designed to increase children's knowledge of aging and the elderly that would foster positive attitudes toward aging and the elderly.

Under a grant awarded by the American Association of Retired Persons, National Retired Teachers Association and the ANDRUS Foundation, and with the cooperation of the Department of Early Childhood/Elementary Education and the Center on Aging, University of Maryland, the project began with the development of the attitude assessment instrument, Children's Attitudes

Toward the Elderly, The CATE.

The CATE, developed in consultation with authorities in the field of measurement and aging, was designed to assess the cognitive, affective and behavioral components of children's attitudes toward the elderly. The CATE was then used to answer the following research questions:

1. What do children know about the elderly?
2. How do children feel about the elderly?
3. What behaviors do children report themselves exhibiting toward the elderly?
4. What behaviors do children report the elderly exhibiting toward them?
5. What contacts do children have with the elderly?
6. What differences within groups of children and between groups of children do we find in terms of their attitudes toward the elderly?
7. What perceptions do children have about their own aging and the aging process?
8. What concepts of age do children possess?

Based on the information collected through the administration of The CATE to 180 children, 20 at each age level from age 3 - 11, a curriculum guide, designed to become a resource for classroom teachers in the nursery school through the sixth grade, was developed. The guide includes an introduction with a justification and rationale for developing positive attitudes in children toward the elderly and the aging process. Goals and objectives, based on the information obtained from administration of The CATE are given for each age level. Suggested activities, designed to foster these objectives, are included. Resources for teachers and children conclude the guide.

Rationale and Significance

The importance of understanding children's attitudes toward the elderly, and planning to develop positive attitudes toward aging and the elderly, is documented by the vast amount of research in the area of attitude formation. Research does indicate that children's attitudes are developed early in life and remain as stable, enduring and directing parts of a child's life.

It is widely held that attitudes are predispositions to act, react and respond to a person, or thing, in either a positive or negative way (Mussen, 1969). It is assumed that attitudes and stereotypes, including those toward old people, have consequences for both the behavior others direct toward older people and the development of one's self-concept as an older person.

Attitudes are learned, and are believed to have three interrelated components: 1) a cognitive, 2) affective and 3) action or behavioral component (Klausmeier, 1974). Information, feelings and actions influence children's attitudes. Attitude formation includes the child 1) being aware of and receiving stimuli, 2) responding to stimuli in ways that range from acquiring through obtaining satisfaction from the response, 3) forming values in sequential patterns from first acceptance through commitment, 4) organizing values in conceptual systems and 5) building a philosophy of life (Klausmeier, 1974).

That children's attitudes can be measured has been demonstrated (Kerlinger, 1975). Measurement and assessment of attitudes has been done by analyzing each of the components of attitudes, the cognitive, affective

and behavioral. Many attitude scales, semantic differentials and other assessment devices have been designed. The work of Piaget (1969), who utilizes the structured interview technique to assess children's attitudes and concepts, provides another technique for the measurement of attitudes.

It is believed that children learn attitudes from the information presented to them by the total environment. Children learn attitudes from those around them with whom they identify, and because they identify with these people, want to be like them and imitate them. During the preschool period children's attitudes stem from their interactions with parents, family and neighbors. What ahppens in the home has a significant effect on children's attitudes. When the child enters school, however, the environment broadens to include the teacher and peers as other important persons with whom to identify and imitate. Once in school, children are exposed to still other models. Research shows that children identify with, and imitate the models presented in the instructional materials of of the schoolbooks, films, slides and pictures.

Schools are not in the business of teaching children a rigid set of attitudes, nevertheless, all would agree that schools, subtly and not so subtly, influence children's attitudes. Attitude learning and modification have been demonstrated at all school levels. Pleasant feelings, success and reward produce favorable and lasting attitudes; unpleasant feelings, failure and punishment lead to unfavorable attitudes, and even to the extinction of previous favorable attitudes. Schools, the teachers and instructional materials of the school, as they provide children with information, support feelings, and provide models for children to imitate, do

influence children's attitudes toward the elderly and the aging process.

In spite of the vast amount of work on attitude formation, there is little information available on the attitudes children hold toward aging and the elderly. De Beauvoir (1973, p. 3) states that society's attitude toward the old is always deeply ambivalent. Whether or not children share in this ambivalence is not clear. Exactly what children's attitudes toward the elderly are, the changes that occur in attitudes toward the elderly as children grow, develop, gain information and experiences, are not evident from the literature.

Although there is much information available on children's attitudes toward objects, things, people, and on how children's attitudes develop and can be measured, the question of what attitudes children hold toward the elderly and their aging remains unanswered in the literature. The questions of whether or not children understand that they too will grow old, what it means to grow old and how children feel, and act, toward the elderly are not answered in the literature. Do children believe the elderly are happy, productive? Worthy of friendship? To be avoided? These are questions requiring answers.

Background Literature

Acknowledging that values and attitudes are developed by children in the early years and maintained throughout life, Thomas and Yamamoto (1975) state that there is little information available on children's attitudes toward aging and the elderly. McTavish (1971) concludes in an extensive review of the research methodology and findings on attitudes

toward the elderly, that descriptions of attitudes toward the elderly across age groups, within any given culture, are not available. McTavish (1971) calls for studies that will explore the longitudinal assessment of changes in attitudes toward the elderly that would take into account the child's age, sex and role relationship.

In exploring children's concepts of time, Piaget (1969) analyzed children's understanding of the concept of age. In a structured interview technique Piaget asked children "Is your mother older than you? Is your Granny older than your mother?", and received the same answer, "My mother is older than me, but my Granny and my mother are the same age." When questioned further, the children stated, "No they are the same size, they are the same age. They will not get any older, but I will." Other than Piaget's work on children's concepts of age, in relation to their concepts of time, the literature revelas sparse information on children's attitudes, concepts or understandings of aging and the elderly.

Several recent and fruitful studies of children's attitudes toward the elderly have been conducted by Thomas and Yamamoto (1975), Hickey and Kalish (1968), Hickey and Hickey (1968). There are, however, large bodies of literature reviewing, examining and exploring older children's attitudes, teenagers and adolescents, and young adult's attitudes toward aging and the elderly providing another source for those exploring attitudes toward the elderly.

Using a story writing technique, Hickey and Kalish (1968) studied the perceptions of 208 third grade children in upper and lower-class public schools. These young children produced stereotyped stories

describing old people as having ambulatory problems, being lonely, bored and inactive. Differences as a function of economic status were more pronounced than those related to religion. It was argued that some of the differences between the wealthy and poor children in this urban group could be attributed to different levels of conceptual ability and verbal learning, rather than to differing perceptions of the elderly.

In another study, Hickey and Kalish (1968) examined third grade, junior high, senior high and college students' perceptions of adult ages on a 20 item questionnaire of evaluative and descriptive terms. They found that the young people perceived differences among adult age groups, even though there was little differentiation between the 65 and 85 year old groups presented to the children. The distinction became greater as the child grew older especially in terms of descriptive items, but not on evaluative items. The older the adult, the less pleasant the image the child held of him. As the children increased in age, however, their images of adult age did not become less pleasant.

Presenting conclusions that were somewhat contradictory to the Hickey study, is the recent work of Thomas and Yamamoto (1975). From Thomas and Yamamoto's exploration of children's attitudes toward the elderly, they conclude that their investigation gave the impression that school children do not share in the allegedly general, negative attitudes toward old age. In this study, children's attitudes toward young, middle age and older persons were studied in 1,000 children, grades 5, 7, 9, and 11, by presenting the children with three newspaper photographs of men representing young, middle and old age. Children were asked to estimate the person's age and wrote stories about each photograph in order of

preference. Scores from a semantic differential, which provided three factors, evaluative, affective and activity-potency, were used in a three way analysis of variance to further explore children's attitudes toward the elderly. Thomas and Yamamoto conclude that by middle childhood, children have developed the perceptual and reasoning skills necessary to arrive at consenual measure, that is assignment of accurate indices to the photographs. The results seem to suggest that children do hold superficial and stereotyped attitudes toward the elderly in terms of emotional content, yet the stories written by the children suggest that children do display an understanding of the life cycle, acceptance of leisure time pleasures, civic activity and social problems on the part of the elderly.

In this study there was a tendency of all subjects to present the old person as a loving grandfather type who had time for grandchildren, with two alternative systems indicated, old persons living on a farm, a lake or out of the city; or continuing to live in the home in which the older person had spent their happy, comfortable and adult life. When the results from the semantic differential were analyzed, it was revealed that children held more positive overall feelings of adults than previously found in the literature.

Thomas and Yamamoto (1975) conclude their study by stating that "with the exception of a slightly less than positive perception of older persons on activity and potency dimensions, children revealed more favorable attitudes toward adults of all ages among fifth, seventh, ninth and eleventh grade students." They also stated that there is a great complexity of children's attitudes, with positive aspects of children's attitudes toward the elderly increasing with age, and some negative aspects increasing

as the children grew older.

Several studies have attempted to clarify the types of attitudes junior and senior high school students hold toward the elderly. Tuckman, Lorge, and Abrams (1954) studied the role concepts of a large sample of junior and senior high school students. They found that the high school students looked upon adolescence as a period of activity and new experiences, while the 20's were viewed as a period of establishment, adjustment and goal orientation, with a great degree of movement and activity. The years between 60 and 70, however, were considered by these students to be periods of inactivity, lack of interest and complete loss of adult roles. Even though this study shows that youth have a clear concept of the roles of old age, it also demonstrates that the common stereotypes and misconceptions have already begun to affect the attitudes of adolescents toward the elderly.

A similar study, (Katenbaum & Durkee, 1964) investigated the attitudes of different groups of adolescents and young people through the use of an Age-Appropriate Attitudes Technique. Young people had a predominately negative appraisal of older people and tended to omit any consideration of the later years of their own lives. Old age appeared risky, unpleasant and without significant positive values. The young in this study, tended to block any extension of themselves into the period of older age.

McTavish (1971), from an extensive review of all of the research available on attitudes toward older persons, concludes, "These studies suggest that 'old people' and 'old age' are meaningful concepts toward which somewhat distinctive precepts are held by old and young respondents."

Stereotyped views of the elderly are reported in various studies examined by McTavish. Studies reviewed suggested that the old are generally viewed as ill, tired, not sexually interested, mentally slower, forgetful and less able to learn new things, grouchy, withdrawn, feeling sorry for themselves, less likely to participate in activities (except perhaps religion), isolated, and in the least happy or fulfilled time of life, unproductive and defensive in various combinations and with varying emphasis.

According to McTavish (1971), the literature suggests that there is a somewhat central, over-all personal rejection or prejudice toward old people, and that the studies examined suggest that the prospect of aging or developing undesirable personal traits themselves influenced people's negative responses in these studies. Additionally, McTavish(1971) concludes his review by pointing out that perceptions of the elderly are multi-dimensional, and that they vary in dimensional complexity and take into account the total social space with which the elderly and others must contend.

Thus the literature research base to date does not present a consistent and complete view of children's attitudes toward the elderly. Although there are studies demonstrating children's rather negative stereotypic perceptions of old age, other studies suggest that the question of whether or not children's attitudes toward the elderly are negative is still moot.

Summary

This study will add to the present base of knowledge on children's attitudes toward the elderly through the development of an instrument designed to assess attitudes of children ages 3 - 11, toward aging and the elderly. The use of the instrument on a sample of children representative

of the population at large, will provide information on the nature of children's attitudes toward the elderly across the age groups of 3 - 11. From the information gleaned from the administration of the instrument, a curriculum guide will be developed, designed to foster children's positive attitudes toward the elderly.

Chapter II of this final report discusses the development of the instrument designed to assess children's attitudes toward the elderly (The CATE), and gives a description of the instrument, with reliability and validity information for the instrument. Chapter III is a discussion of the procedures utilized in the administration of The CATE. Chapter IV presents the information of the findings and the results of the administration of The CATE, and Chapter V concludes the final report with a discussion of the results, conclusions and implications for the development of a curriculum guide that would be designed to foster children's positive attitudes toward the elderly and aging. The appendix includes a copy of the preliminary report on the piloting of The CATE, a copy of The CATE and the complete CATE Test Manual, and a copy of the curriculum guide.

CHAPTER II

TEST DESCRIPTION

As gerontological research has provided new documentation of facts about the elderly, there has been an interest on the part of researchers in exploring measurement techniques appropriate to the study of attitudes of various groups toward old people. The Children's Attitudes Toward the Elderly, (The CATE), was designed to assess children's attitudes toward old people through analysis of the affective, behavioral and knowledge components of attitudes. From each component, assessment items were constructed. In order to achieve both a balanced sample of items in the cognitive, affective, and behavioral areas, and an instrument appropriate for use with children ages 3 to 11, four measurement techniques were employed. The subtests probe children's attitudes in different ways. In the first subtest, open-ended questions were utilized. The second, a semantic differential, employed standardized bi-polar scales on the evaluative dimension of attitudes. The third, a picture series, employed concrete visual representations to elicit responses. The final subtest, a Piaget based instrument, was designed to probe the child's cognitive-development level with regard to concepts of age.

Each of the four sections of The CATE assessed different areas of children's attitudes toward the elderly. Together, the four sections yielded the information required to develop a curriculum guide designed to foster children's positive attitudes toward the elderly. In cooperation with experts in the field of aging and in the area of measurements and

statistics, each section was piloted and refined. This process was continued until satisfaction with an item was obtained. In order for an item to be considered satisfactory, it had to meet the following criteria:

1. judged to be valid by an expert in measurements and in the field of aging,

2. understandable, acceptable and of high interest to children between the ages of 3 - 11,

3. economical, tapping the most information possible about children's attitudes toward the elderly in the least amount of time,

4. codeable, scoreable and yielding results that could be analyzed statistically.

The CATE was then compiled from these items, selecting a balance of items that would, together, assess the children's cognitive, affective and behavioral components of their attitudes toward the elderly. The CATE was then formally piloted on a sample of randomly selected children in nursery school through the sixth grade. The piloting was completed on a sample of children not available for the formal administration of The CATE. The results of the pilot, contained in the Preliminary Report in Appendix A, were used to further refine the instrument as well as to suggest preliminary hypotheses for the final study.

Although there is a great amount of information on children's attitude development and the measurement of these attitudes, there is relatively little material on children's attitudes toward aging and the elderly. In the area of attitudes toward the elderly, most investigations have focused on subjects above the 6th grade level. The CATE was developed to examine attitudes of children, between the ages of 3 - 11, toward aging and the

elderly. The present CATE consists of four subtests, three of which measure children's attitudes toward the elderly and the final subtest which measures the child's concept of age.

The child's performance on the Word Association subtest serves as an indication of the cognitive, affective, and behavioral components of his attitude toward aging and the elderly. As a measure of the child's attitude toward young and old people, the Semantic Differential subtest looks at the evaluative dimension of these attitudes. The Picture Series subtest assesses children's attitudes toward the elderly when presented with concrete examples of older and younger people. The Concept of Age subtest gives an indication of the child's level of cognitive development with regard to age concepts. This test can be used independently when awareness of the child's understanding of the concept of age is necessary for instructional purposes. Each subtest is explained in detail in the following sections. Each test reveals a different, yet important, aspect of what the child knows about the elderly, what he feels toward them and how he acts toward them.

Word Association Subtest

Researchers have had success in assessing attitudes toward the elderly using instruments composed of open-ended type questions and variations of them (Golde and Kogan, 1959 , Trebig, 1974). On the basis of these efforts, the word association questions of the CATE were developed to generate responses which would depict the affective, physical, and behavioral components of preschool and elementary school children's attitudes toward the elderly. Questions were designed, tested and revised during the piloting phase until

the final questions selected were found to yield the most information pertaining to children's attitudes toward older people.

The cognitive component of children's attitudes was measured by the following questions: (1) What can you tell me about old people? (2) What old people do you know? (3) Can you give me another name for old people?

In order to elicit responses related to the affective component, children were asked, "How do you feel about getting old?" The follow-up question, "What do you do with that person?" referred to the older people the child knows and specifically related to the behavioral component of children's attitudes.

Administration

After establishing rapport with the child, the examiner asked each question on a one-to-one basis. Each interview was taped to preserve the exact wording of the children's responses. Tabulations were made, however, on the answer sheet by noting the categories into which the responses fell and the number of responses given in each category. It was important to begin with this subtest first, so that the child received no clues from pictures or other comments about older people. The ordering of subtests was selected to prevent the formation of response sets. Each child was allowed sufficient time to respond but generally 30 seconds without a response led to the next question. In addition to wait time, it was also important that the child respond voluntarily without being prompted.

Definitions of Categories and Scoring of Word Association Questions

Section I

What can you tell me about old people?

The subjects' responses to this question were scored as belonging to one of three categories:

a. Affective - feelings about older people that were expressed by comments such as "they're nice, mean kind," or I like

b. Physical - Responses that pertained to physical attributes or personal appearance such as "they have wrinkles," "gray hair," "glasses," or "they wear pretty clothes."

c. Behavioral - Answers that described characteristics based upon life styles of older people, including specific behaviors. Included under this category were things the older person has and things he does. Typical responses were old people "have money," "dogs," "old houses," or "they walk funny," "they die," "they don't go out much."

Scores were recorded for both frequency of response and degree of positiveness or negativeness. A more detailed description of the scoring for this question and other questions for all subtests of the CATE are contained in the Test Manual for The CATE found in the Appendix B.

Section 2

What old people do you know?

Responses from subjects to this question were scored as belonging to one of two categories:

a. Knowledge of old people within the family structure.

b. Knowledge of the elderly outside of the family.

In order to assess the behavioral component of children's attitudes toward the elderly, children were asked to tell what they would do with the

older person named. Responses to this question were divided into three categories for scoring purposes:

a. With-active: Responses that indicated joint active or moving participation between subjects and the older person. Activities involved going places, playing games, other than board games such as checkers, chess, etc., and doing things with each other such as cooking, planting gardens, etc.

b. With-passive: Responses that referred to a quiet activity such as talking, reading, watching T.V., playing checkers with children and an older person doing something together of a quiet, passive nature.

c. For: Responses that portrayed either the subject, or the older person doing something for the other person. For example, if the older person was seen as "cooking for me," "giving me presents," "lets me visit him." or where the subject "cleans the older person's house for him," "goes to the store for him," or helps him in some way where the action was on the part of only one of the parties.

Section 3

Can you give me another name for old people?

Responses were scored as either yes or no.

Yes - correct responses such as elderly, senior citizens, etc.

No - the subject was given a "no" score if he could not respond, or the response was not appropriate, i.e., aunt, grandmom, George Washington.

Section 4

How do you feel about getting old?

Responses were divided into 3 categories:

a. Positive - The subject looked forward to getting old or gave some indication that he felt good about it.

b. Neutral - Responses that were global such as "It's okay" or responses that implied one has little control over getting old because it's just in the scheme of things. A child might have said "There's not much I can do about it," or "That's the way it has to be."

c. Negative - Responses that reflected an aversion to getting old such as "I don't want to," "I'm going to stay young," "That's terrible," or "I'll feel sad," "bad."

Validity and Reliability

The Word Association subtest was designed to adequately sample the possible universe of questions which assess the affective, cognitive and behavioral component of children's attitudes toward the elderly. The piloting phase and consultation with experts in both the fields of gerontology and measurement and statistics permitted a refinement of the subtest. While the subtest is to be viewed as experimental and in need of further validity and reliability studies, an administration of the instrument to a random sample of children (N=180) ages 3 to 11, indicated a consistency of understanding of, and response to, test items. (See description of subjects - Appendix B). Coefficients of inter-rater reliability (2 raters) on category scoring for the subtest ranged from .7977 to .9838.

Semantic Differential Subtest

During the piloting phase of The CATE, the decision was made to incorporate a more structured subtest into The CATE, which would further reveal children's attitudes toward the elderly. The possibility of using a semantic differential was explored and agreed upon. The semantic differential (SD) has several advantages. It is relatively easy to construct and can be numerically scored, facilitating analysis and allowing comparisons to be made regarding sex, grade and other variables.

In assessing attitudes toward the elderly, the SD has been used successfully in various research investigations (Kogan, 1961, Seltzer and Atchley, 1971, Thomas and Yamamoto, 1975). Although most of the studies tested subjects above the high school level, Thomas and Yamamoto found a semantic differential to be of value in determining the attitudes of children in grades 5, 7, 9 and 11 toward three concepts, young person, middle-age person, and old person. Results of their study indicated a more positive attitude, particularly in the evaluative dimension, than had been previously disclosed by other researchers.

The semantic differential (SD) constructed for this study consisted of 10 items on a 5 point, bi-polar scale rating the two concepts young people and old people. Bi-polar adjectives used in this instrument were selected for two reasons:

1. They were adjectives belonging to the Evaluation factor of the SD and account for the largest part of the total variance in comparison to other factors of potency, activity, dynamism, etc. It has been determined that the dominant dimension affecting children's ratings of concepts is the Evaluation factor, especially in the earlier

grades. It has also been suggested that the potency and activity dimensions are not really discernible until at least fifth grade (Heise, 1970).

2. These evaluative adjectives had obtained high factor loadings through investigations by DiVesta (1966) into how children in grades two through seven rated more than 100 concepts. Factor loadings for most adjectives selected were above .75. Four of the adjective pairs selected for use on The CATE were friendly-unfriendly (.92), ugly-pretty (.83), wrong-right (.80), and bad-good (.93). Factor loadings for the other six pairs of adjectives used on The CATE were not available.

Administration

The SD was orally administered to individual subjects by examiners. This method was preferable for young subjects. Each child was asked to rate first one concept then the other. Two separate forms were used, rotating concept sequence and order of the scales. The polarity of the scales was also rotated so that half were in one direction and half in the other.

The procedure consisted of asking the child to rate old people as good or bad. When the child selected one or the other, he was then asked to indicate the degree of goodness or badness upon further questioning by the interviewer. For example, if the child responded that old people were good, the examiner inquired, "Are they very good, good, or a little good?" This process of refining the answer allowed the interviewer to place a mark on one of the 5 point scales. The same procedure was used for each of the 10, bi-polar scales with reference to old people, after which the child was asked to rate the concept of young people on the same scales.

Definitions and Scoring

The adjectives selected for rating the concepts of young and old people were good-bad, happy-sad, right-wrong, wonderful-terrible, pretty-ugly, friendly-unfriendly, clean-dirty, rich-poor, healthy-sick, helpful-harmful.

Each scale had a range of 5 points and the score for each scale could be 1 to 5. Scoring the semantic differential yielded means and standard deviations on the total score for the concepts old people and young people as well as means and standard deviations on item scores. Each subject rated both concepts on the ten items, giving each item a score. Items for the two concepts old people and young people were reversed both in order of appearance and in direction.

Validity and Reliability

The Semantic Differential Subtest is to be viewed as experimental and in need of further validity and reliability studies, however, investigations by DiVesta (1966) have established the appropriateness of the evaluation adjectives for young children, second through seventh grades, and have reported factor loadings for four of the bi-polar pairs as above .83. The validity and reliability of the SD for the 3 year old through first grade population has yet to be established, although an administration of the subtest to a random sample of 180 children ages 3 to 11 indicated a consistent understanding of adjectives and choice possibilities on the part of younger children. Correlation with scale score for each item and scale correlations give some measure of the internal consistency of each scale.

Picture Series Subtest

Various researchers have used pictures, drawings and photographs as a means of eliciting attitudinal responses from samples of adults and children. Lawrence (1974) employed photographs to challenge the role stereotypes of adult subjects. Thomas and Yamamoto (1975) explored the attitudes of students in grades 5, 7, 9, and 11 toward "young," "middle-age," and "old" persons. Since The CATE instrument was designed for use with preschool and elementary school students, the utility of a concrete pictorial representation was grounded in the research on child development which indicates that young children have difficulty in handling abstract verbal concepts.

Four 8" x 10" drawings were prepared by a professional artist after consultation with experts on the physiology of aging. The drawings represented men at four stages of life and were designed to elicit children's cognitive, affective and behavioral responses to concrete representations of age concepts. The drawings depict full face portraits of caucasian males. Sex, race, dress and facial expression were held constant in order that subjects' responses to pictorial representations of four life stages would be based on the single variable of age. The drawings were then photographed for utilization as part of the testing instrument and to provide the capability for reproduction.

Validation of the drawings was established by asking graduate students in the fields of gerontology and human development to rate each drawing by giving it an estimated age.

Administration

The subtest was administered individually in accordance with specific instructions provided in the recording forms reproduced in the Appendix B.

General testing considerations of the subtest were introduced by the statement, "Now I will show you some pictures and ask you some questions about them." It was important that the examiner adapt the administration of the subtest to the child's speed.

Verbal instructions were formulated to correspond to the vocabulary level of children 3 years of age and older. If children asked for clarification or did not respond to a question, the examiner repeated, but not rephrased the question. A wait time of 30 seconds was established before the examiner proceeded to the next question.

Definitions of Categories and Scoring

Section 1

Which person do you think is the oldest? Why?

The first part of this question was scored on the basis of whether the subject was able to correctly identify the oldest man depicted in the pictures. If the subject chose correctly, he was given a "Yes" score. If the subject selected any but the oldest man, he received a "No" score.

The second part or "Why" question was scored as either an evaluative response or a physical-descriptive response.

a. Evaluative - A response was considered evaluative if it referred to opinions or judgments, as made by the subject. Such responses included "he's nice," "mean," "sad," "bad," etc.

b. Physical-descriptive - Responses of this type specifically related to observable physical traits such as, "he has gray hair," "wrinkles," "his lips are pushed in," etc.

For the rare instance when a child gave responses in both categories, the following procedure was followed: If 50% or more of a child's responses were typical of a category the child's score was assigned to that category. For example, if a child gave one evaluative and four physical-descriptive responses, he was scored as physical-descriptive.

How will you feel when you are that old?

Responses were scored as either positive, neutral or negative in the same manner as Section 4 on the Word Association Subtest.

What things would you help this person do?

Responses were scored in three categories:

a. Affective - Responses that pertained to feeling or emotion where the child suggested that he would "be nice to" the older person, "love him," etc.

b. Behavioral Stereotype - Responses that implied that the older person needed a great amount of help because of his age, such as "help him get well," "take him to the hospital," "help him walk," "clean up for him," "take care of him."

c. Behavioral Unique - Responses that were rare in occurrence and depicted helping the older person in unique and different ways specific to the situation of the child. Examples of behavioral unique responses were "I helped him carry boxes when he moved," or "carrying wood for his fireplace."

What things could he help you do?

Responses to this question were labeled either affective or behavioral stereotype.

a. Affective - Responses that suggested "he could be nice to me" or "love me."

b. Behavioral Stereotype - Responses that indicated that "he could help me with my homework."

Section 2

Can you put these pictures in order from the youngest to the oldest?

Each subject received either a coded "Yes" score for placing the pictures in the correct order or a coded "No" score for ordering them incorrectly.

How old do you think each of these men are:

Age estimates given by each subject were recorded and used to determine mean-age estimates and standard deviations for the 4 pictures.

Section 3

Which of these people would you prefer to be with? Why?

The pictures were assigned a number from 1-4, with the picture of the youngest man coded 1 and the oldest, 4. The numbers were not marked on the pictures, but were recorded when a subject indicated his preference. For example, if the subject selected the youngest man, he received a coded score of 1. If the subject chose the oldest man, he received

a coded score of 4.

The second part of the question refers to the basis upon which a subject preferred one of the men. Three types of responses were recorded:

a. Age-related - Any response that specifically referred to age such as "he's older" or "he's younger."

b. Altruistic - Responses that suggested unselfish motivations and having the older person's interest in mind, i.e. "I want to take care of him," "he needs help," "I can make him better."

c. Evaluative - As defined in Section 1, A. Responses included such comments as "I chose him because he's nice," "he's happy," "he's like my grandfather," "he's more active," "he can give me things."

In the few instances in which a subject's responses covered more than one category, a judgment was made as to the strength of response and was scored as one category or the other.

What kinds of things could you do with that person?

Responses were scored as belonging to 3 categories as in the Word Association question.

1. With-active
2. With-passive
3. For

Validity and Reliability

The Picture Series subtest was designed to sample the possible universe of items assessing the affective, cognitive and behavioral component of children's attitudes toward the elderly, through the use

of concrete pictorial representations of men at four stages of life. The drawings were validated by graduate students in the fields of gerontology and human development. Agreement on the physiological details of the drawings was obtained through consultation with experts in the fields of gerontology and measurement and statistics.

The subtest is to be viewed as experimental and in need of further validation and reliability studies. An administration of the instrument to a random sample of 180 children ages 3 to 11 indicated that the sample children both understood the concepts depicted in the drawings, and were able to answer the questions relating to the pictures with a high degree of consistency of category choice. Coefficients of inter-rater reliability (2 raters) on category scoring for the subtest ranged from .7184 to .9777.

The Child's Concept of Age Subtest

The conviction that there is a strong cognitive-developmental factor in children's understanding of age concepts led to the design of a subtest based upon the developmental theory of Piaget (1969). The intent of the subtest was to provide a standardized procedure for placing children's concepts of age into a cognitive-developmental stage-by-stage progression in order that instructional methods and materials might be geared to the child's level of understanding. Piaget (1969) provides the basis for a study of the child's intellectual development with regard to the concept of age, however there have been few attempts to develop measurement techniques and procedures to assess Piagetian concepts in this area.

Looft (1971) employed the Piaget framework to test the hypothesis

that there is an increasing linear trend with age for the accuracy of judging the older of two human figures, and that there is a decreasing linear trend for judgments based on the single factor of size. The results of this study seem to provide some confirmation of the Piaget framework, nevertheless there has been no attempt to systematically assess the responses of samples of children in relationship to the stages suggested by Piaget.

The child's Concept of Age subtest was designed to determine if children follow a cognitive-developmental sequence in their ability to understand age concepts. The following questions posed by Piaget (1969) provided the basis for developing the Concept of Age subtest:

1. Does the child look upon aging as a continuous process in time? Is this process the same for all individuals?
2. Does the child associate age differences with birth order? This involves the relationship between duration (age itself) and succession (or the seriation of births).
3. Is age (time) associated with size or height (space), and not viewed as a continuum in its own right?
4. Does the child understand that age differences are maintained throughout life?

Piaget (1969) has suggested that the child's development of the ability to answer such questions follows a sequence of three cognitive-developmental stages.

Items included in the final subtest were refined and revised during the piloting phase both to provide an adequate sample of items in each of the four areas mentioned above, and to relate concretely to

the child's experience. The Piagetian stages were further refined and Level 0 was added to accommodate subject's failure to respond or obvious misunderstanding of item.

Administration

The subtest was introduced by a statement such as "Now I will ask you some puzzle type questions." The subtest was administered as an individual interview in which the subject was asked to reply "Yes" or "No" to the standardized statement made by the examiner. The examiner then asked "Why" the child chose a yes or no response in order to elicit the subject's reasoning and to locate the response precisely at a particular developmental level. The test booklet provided space for the recording of responses, however, all responses were tape recorded to insure proper assignment to level. A wait time of 30 seconds was established before moving on to the next item.

Definitions and Scoring

This subtest consists of 12 statements which attempt to probe the child's intellectual development with regard to the concept of age. Each child received a score based upon the level of response given in his explanation of why he agreed or disagreed with the statement. Responses were scored as belonging to one of the levels in the following scale based on the structural outline of the cognitive-developmental scale proposed by Piaget. It was necessary to add Level 0 to cover cases where the youngest children had not yet reached the stage where they could attend to the questions. Each item could have a score of 0-3 in accordance with the level of response given. Total score on the Concept of Age subtest for a subject ranged from 0 to 36.

Levels of Concept of Age Subtest

Level 0

The subject gives no response or obviously misunderstands the item, "Don't know," or "because" are typical responses at this level.

Level I

The child understands the item but relates to it on a pre-operational, ego-centric and intuitive level. Ego-centric time is the projection of inner time to external objects. There is a lack of differentiation between the subject and the external world. The child fails to grasp the ideas of succession and duration operationally. Age is equated with size or other spatial or physical data. The child's reasoning will exhibit the following specific confusions.

Age differences are annulled or reversed by growth in height. Therefore, the child thinks that mother is the same age (size) as grandmother and that neither grow any older once they reach height maturity, while they themselves continue to grow. Fathers and grandfathers were born at the same time because they are now the same size. If someone is bigger (size) than you, then they are older.

They will further say that grandmother or grandfather was born old, that people can grow older at different rates (because they seem to grow more or stop growing), that it is possible to "catch up" to another person in age by eating soup or sleeping well, because they have been told these things will make them grow. They fail to affirm that they were born after parents or teachers because of temporal ego-centrism--the existence of older people begins with their own memory. They further do not know how old they were when they were born because they "don't remember." Age, then, is not seen as a continuous process in time. Rather the apprehension of duration relates to its content--it is proportional to the changes per-

ceived during it. "People grow bigger and then for a long time they remain the same and then quite suddenly they become old (Piaget, 1969, p. 227)."

Level II

At level two the child's reasoning is of two types. The grasp of succession may precede the grasp of duration--the child is able to order births but fails to deduce permanence of age differences. Children's grasp of correspondence is restricted to actual age, i.e., "I get older on my birthdays." Or, duration may precede succession--age differences persist, but the child fails to deduce the order of succession of births from this information. In other words, succession and duration are not linked by logical necessity. The child is unable to reason: "A was born before B, because A is older," or "A is older than B because he was born before him." Therefore, partial answers appear to represent reasoning. Age is seen as a continuous process in time only insofar as it relates to specific situations. The child is unable to generalize--"Everyone must grow older." Age has been disassociated from height or size but replies such as "some kids are real tall and they're not very old" lack generalizability. Subjects are unable to coordinate age at birth with reasoning, although their judgmental accuracy is more nearly correct; "I was I week old because I was just born."

Level III

Duration and succession are coordinated and their relationship preserved through time. Reasoning exhibits the ability to form a representation of duration as an interval independent of what occurs in it. Children can deduce age from birth order and order of succession from colligation of ages. Reasoning at this level incorporates logical necessity ("if-then"), and generalizability ("Everyone," "all people "). Age is seen as a continuous process in time, "everyone must grow older every second,"

and the beginning of the process, with age at birth, is fully understood.

Validity and Reliability

The Child's Concept of Age subtest is to be viewed as experimental and in need of further validity and reliability studies. A three-way analysis of variance from scores obtained through one administration of the subtest to 180 subjects randomly selected, ages 3 to 11, revealed grade main effects significant at the .001 level.

The Child's Concept of Age subtest was administered together with three Piaget based conservation tasks from the Goldschmid and Bentler Concept Assessment Kit to 180 randomly selected children . Chi-square tests demonstrated a significant association between children's performance on the concept of age subtest (total score) and conservation level (x^2 =22.9,83, df=93, p <.001) and a significant association between item score and conservation level (all significant at .0001). In addition, total score on the concept of age subtest was significantly correlated with conservation level (r=.788).

The two raters who scored the administration of the test to the original sample (N=180) had a coefficient of interrater reliability of .9967. Further administrations of the subtest to various samples are needed to establish the reproducibility of results.

CHAPTER III

PROCEDURES

The CATE, Children's Attitudes Toward the Elderly, developed in consultation with authorities in the field of measurement, statistics and aging, was designed to assess the cognitive, affective and behavioral components of children's attitudes toward the elderly. Following the piloting of The CATE, it was administered to a sample of 180 children, 20 at each age level from 3 - 11. The administration of The CATE took place during the first month of 1976 in schools in a county system located adjacent to Washington, D.C. The information gained from the administration of The CATE would be utilized in the development of a curriculum guide designed to foster children's positive attitudes toward the elderly.

Sample

Children from a school system in a county adjacent to Washington, D.C. were selected as the sample for this study of children's attitudes toward the elderly. The children were selected from the schools participating in the Education Center of the county. A broad range of socio-economic status is represented in the population of these schools. This county, until the past 15 years, has been largely agricultural in nature. During the past decade, however, the county has experienced a rapid population growth. People working in the greater Washington, D.C. metropolitan area have settled within the county in single family housing developments, housing projects and apartment complexes. The easy access to D.C. along with the

opportunity to live in a suburban area have attracted many to the county. The rural agricultural population has remained in the county, thus providing a sample for this study that represented rural, suburban, and urban populations.

Characteristics of the selected county are reported in Figure 1.

Figure 1

Characteristics of the Community		
Total Population	Median Family Income	Educational Level - Adults
56,159	$12,452	12.0

Characteristics of the schools within the county are reported in Figure 2.

Figure 2

Characteristics of the Schools Within the County				
Total School Enrollment	Average Teacher Salary	Average Yrs. Teach. Exp.	Pupil/Teacher Ratio	Ave.Daily Attendance
16,820	$11,418	8.4	20.2	93.3%

Characteristics of the schools participating in this study are reported in Figure 3.

Figure 3

Characteristics of the Schools Participating in the Study				
Total School Enrollment	Median Family Income	Average Yrs. Teacher Exp.	Pupil/Teacher Ratio	Ave.Daily Attendance
Sch. I 548	$ 9,879	7.0	21.1	95.0%
Sch. II 1,428	11,083	6.0	22.1	94.5%

Within the county schools of the teacher education center selected for the study, the total population of children at each grade level were pooled. Using a table of random numbers, 20 children were randomly selected from each of the grade level pools from Kindergarten to 6.

The following tables present a detailed description of the selected sample of children participating in the study in terms of sex, race and housing type.

TABLE 1

Description of Sample-Sex,

Housing Type, Race By Grade

	Sex		Housing		Race	
Grade	Female	Male	Rural and Farm	Town and Developemt	White	Black
3 year old	12	8	*	*	16	4
4 year old	10	10	*	*	16	4
Kindergarten	8	12	5	15	17	3
First	9	11	5	15	16	4
Second	10	10	12	8	12	8
Third	11	9	10	10	12	8
Fourth	10	10	10	10	11	9
Fifth	10	10	9**	10	15	5
Sixth	8	12	7	13	14	6
Total	88	92	58	81	129	51
Percent	48.9	51.1	41.7	58.3	71.7	28.3

* No data
** No data 1 subject

TABLE 2

Description of Sample -

Housing Type* and Race by Sex

Sex	Housing Type				Race			
	Rural and Farm		Town and Development		White		Black	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percen
Female	29	44	37	56	61	69.3	27	30.7
Male	29	39.7	44	60.3	68	73.9	24	26.1

* No data for preschool subjects and 1 fifth grader

In addition, 93.1% of black subjects lived in either rural or farm settings, while 81.2% of white subjects lived in town or development housing.

To complete the sample, a group of 3 and 4 year old children were selected from a university nursery school. This school has an enrollment policy requiring a socio economic and racial mix of children. Thus these children, as those from the county system, represented the general population. Twenty 3 year old children and twenty 4 year olds were randomly selected from the total population of the children at the university nursery school.

In accordance with the guidelines for Research on Human Subjects, Department of Health, Education and Welfare, permission for children to participate in this study was obtained by asking the parents to sign permission slips. The permission form described the study, indicated the types of questions the child would be asked and the possible benefits of the study.

Administration of The CATE

Two doctoral students in the field of education were trained in the administration, coding, and scoring of The CATE. Both of the students had experience as teachers, are currently completing work on their doctorate, and participated in this project as graduate assistants and were involved in designing of The CATE. The principle investigators and the graduate assistants met frequently to discuss various techniques for administration of The CATE and observed one another administering The CATE in practice sessions with children who were not taking part in the pilot or final sample. Training sessions were held until the two testers were thoroughly familiar with the administration of The CATE and were consistent in the administration of it. The familiarity of the testers with the instrument, their background of experience as teachers and the training sessions are believed to have contributed to the high inter rater reliabilities found between the two testers on selected items of The CATE. Inter rater reliabilities ranged on these items from .79 to .98.

The administration of The CATE was done on an individual basis. Children were asked to go with the examiner to a room near their classrooms for the test. Children were individually escorted to and from the room by the examiner. Every attempt was made to establish rapport with the children. Children were engaged in informal conversation on the way to the room.

Prior to the time of the actual testing, the examiners had met with the teachers and the principal of the schools to explain the purpose of the study and to establish the testing procedures. The teachers were asked to prepare the children for the administration of The CATE by telling

their classes that some of the children would be asked to leave the room and work with Ms. Galper or Ms. Serock. The children were not told anything else about The CATE by the teachers so the children's responses would not be influenced. The children were directed, when they would be asked to go with the examiner, to leave their work. They were given assurance that they would not miss out on classroom activities and would be given the opportunity to participate in any activities they might miss while with the examiner.

Once in the room used for the administration of The CATE, children were told that they would be asked some questions about older people in order to help others learn. It was stressed that there would be no right or wrong answers to the questions they would be asked, only that they could help us find out about how children think about the elderly.

After the examiner created an informal, friendly and warm atmosphere, the actual testing took place. At all times during the administration of The CATE, which took about 15 minutes per child, the atmosphere was kept business-like yet relaxed and friendly.

The entire administration of The CATE, with each individual child, was tape recorded. In addition to the tape recording, children's responses were recorded on the test manual when it was possible to do so without interrupting the flow of the administration of the test or distracting the child. The tape recording, however, was believed necessary in order to record for later transcription, children's total and exact responses to the questions in an unobtrusive manner. The tape recordings were later transcribed. These transcriptions of the tapes, with children's responses that were recorded on the test manual, were scored and coded for later

analysis. Every attempt was made to hold the testing conditions constant across all administrations of The CATE.

Word Association Subtest

The Word Association Subtest was introduced to the children prior to the other subtests. Subtests were intentionally ordered so that clues from pictures or other comments about older persons included in the next subtests of The CATE would not influence responses. Children were given sufficient time to respond to the questions. After a 30 second wait, if no response was believed forthcoming, the next question was asked.

Semantic Differential Subtest

The Semantic Differential Subtest was administered orally to the children. Each child was asked to rate one concept and then the other. When the child selected one or the other of the adjectives, he was then asked to indicate the degree of intensity of response upon further questioning by the interviewer. For example, if the child responded that old people are good, the examiner asked, "Are they very good, good or a little good?" Children's responses to this subtest were easily recorded on the test manual.

Picture Series Subtest

This subtest was administered by telling the children that they would be shown some pictures. The pictures were shuffled, and following the directions given in the test manual, the children were asked to respond to the questions. The verbal instructions for this subtest, as all others, were formulated to correspond to the vocabulary level of children

3 years of age and older. If children asked for clarification of the question, or did not respond to questions, the examiner repeated, but did not rephrase the questions. A wait time of 30 seconds was given before going on to another question. Responses to the questions on this subtest were tape recorded, although it was possible to make some tabulations directly on the test manual without interferring with the administration.

Concept of Age Subtest

This subtest was introduced to the children with a statement such as, "Now I will ask you some puzzle type questions." Children were asked to reply to the statements, and additional questioning probed each child's developmental level of the concepts included on The CATE. All responses were tape recorded to insure proper assignment of level of response.

Statistical Analysis

Data were scored, coded and analyzed using a number of statistical techniques. Chi-Square, Analysis of Variance, T statistics and correlations provided the basis for the analysis of the data. The level of association of the variables of sex, race, grade level and housing type with the subjects' responses for each item of The CATE were examined. The results of the statistical analysis are reported in Chapter IV.

Word Association Subtest

The absolute frequency of responses for each item and the relative frequency (percentage) of the total sample responding to each item, of the Word Association Subtest were obtained. In addition, the Chi-Square statistic, appropriate for use in analyzing the categorical data resulting

from the Word Association Subtest, was used to determine the level of association between each of the variables of race, sex, housing type and grade level and the subjects' responses.

Semantic Differential

The total score for each child for the concepts of old people and young people was obtained. The means and standard deviations for the total sample were determined. The T statistic was used to test the differences between means for the two concepts old people, and young people. The means and standard deviations by grade level were also determined and the T statistic was utilized to assess the differences for the concepts old people, and young people by grade level. The means and standard deviations for each of the paired items were then obtained and the T statistic utilized to analyze the differences in the way children in the total sample, and children at each grade level, rated the concepts old people and young people for each of the paired items of the semantic differential.

Picture Series

Mean ages for the four pictures representing men at various stages of life were obtained from the data resulting from children's responses when asked to estimate the ages of each of the men in the pictures. In addition, for each item of the Picture Series Subtest the frequency of responses was obtained. The Chi-Square statistic, appropriate for use in analyzing the categorical data resulting from the Picture Series Subtest, was used to determine the level of association between each of the variables of race, sex, housing type and grade level and the subjects' responses.

Concept of Age Subtest

Children's responses to the Concept of Age Subtest were assigned a level score for each item. Each of the 12 items on the subtest could have a score of 0 to 3 in accordance with the level of response given providing a total possible score of 36. The total scores were submitted to a 3 way Analysis of Variance in order to determine sex and grade effects. The Newman-Keuls technique was used to test contrasts between differences in grade level. Chi-Square statistics were used to determine relationship between the total score and the conservation level of the subjects plus the level of association on each item score and the conservation level of the subjects. Finally, the relationship between the conservation level assigned to each subject and the total score of the subject on the Concept of Age Subtest were determined through correlational techniques.

Chapter IV

PRESENTATION AND ANALYSIS OF DATA

The CATE was administered to 180 children in nursery school through sixth grade. The purpose of the instrument was to assess children's attitudes towards the elderly and to use the information obtained to develop the curriculum guide for promoting attitudes toward the elderly.

The instrument attempted to provide answers to the following questions:

1. What do children know about the elderly?
2. How do children feel about the elderly?
3. What behaviors do children report themselves exhibiting toward the elderly?
4. What behaviors do children report the elderly exhibiting toward them?
5. What contacts do children have with the elderly?
6. What differences within groups of children and between groups of children do we find in terms of their attitudes toward the elderly?
7. What perceptions do children have about their own aging and the aging process?
8. What concepts of age do children possess?

To answer these questions The CATE with its four subtests was developed. The Word Association Subtest was designed to assess the affective, physical, and behavioral components of children's attitudes toward the elderly. The Picture Series Subtest was designed to assess the ability of a child to estimate ages as well as obtain information relating to the child's attitude toward the elderly and the aging process. The Semantic Differential Subtest

employed bi-polar adjectives to assess children's attitudes and to examine differences in children's ratings of the concepts, young people and old people. The Concept of Age Subtest was designed to determine if children follow a cognitive-developmental sequence in their ability to understand age concepts. The results of the administration of The CATE are contained on the following pages.

Word Association Subtest

Section 1:

The responses from the section "What can you tell me about old people?" were used to determine the subjects' overall knowledge and feelings about old people in each of three content categories: affective, physical, and behavioral. The data were analyzed to yield a measure of positiveness or negativeness of knowledge and feeling in each of the categories by subtracting the number of negative responses from the number of positive responses for each subject.

Affective Category

Of the total sample, 141 subjects or 78.3%, made no response in the affective category. That is, 78% of the sample did not express knowledge or feelings about old people in affective terms. Of those responding, 34 subjects, 18.9% of the total population had scores ranging from 0 to +6 and 5 subjects, 2.8%, had scores ranging from -3 to -1. Grade level, sex, race, and the housing type of the respondent were not associated with the range of positive or negative affective score. For the total sample of those responding, the largest frequency of subject scores were found to be in the positive ranges.

Physical Category

Of the total sample, 152 subjects, 84.4%, made no response in the physical category, 5 subjects, 2.8% of the total population, had scores ranging from 0 to +2, 22 subjects, 12.2%, had scores ranging from -1 to -3,

and 1 subject, .6%, had a score in the -4 to -6 range. Grade level, sex, race, and the housing type of respondent were not associated with range of positive or negative physical score. For the total sample of those responding, the largest frequency of subject scores were found to fall in the negative ranges.

Behavioral Category

For the total sample of those responding, scores in the behavioral category ranged from -9 to +6. The frequencies of score ranges are presented in Table 1. Of the total sample, 40.6%, made no response in the behavioral category. Of those that responded in the behavioral category, the largest frequency of subject scores were found to be concentrated in the negative categories. Grade level, sex, race, and housing type of respondent were not associated with range of positive or negative behavioral score. More subjects expressed their knowledge and feelings about old people in behavioral terms than in the other two categories.

TABLE 1

Frequencies of Score Ranges For Total Sample In Behavioral Category

Score Range	Absolute Frequency	Relative Frequency (Pct.)
No response	73	40.6
+3 to +6	4	2.2
0 to 2	24	13.3
-1 to -3	73	40.6
-4 to -6	4	2.2
-7 to -9	2	1.1

Section 2:

A. The responses to the question, "What old people do you know?" were used to analyze the extent to which children knew:

1. Old people in their family structure.
2. Elderly persons outside of their family.

With regard to knowledge of elderly within the family, 158 subjects, 87.8% of the total sample, responded "yes." Elderly people within the family structure were unknown to 22 subjects, 12.2% of the total sample. There was no association between grade level, race, housing-type, sex, and knowledge of elderly persons within the family.

Of the total sample, 39 subjects, 21.7 %, stated that they knew elderly persons outside their family structure, while 141 subjects, 78.3%, had no knowledge of elderly persons outside the family. Grade level was associated with knowledge of other elderly persons (x^2=18.854, df=8, $p < .0157$). The sample was divided into three groups (3 year old - kindergarten, first-third, and fourth-sixth) for the purpose of analysis. Results of the analysis indicated that knowledge of older people increased as grade level increased. The results specifying these differences are presented in Table 2.

TABLE 2

Chi-Square Table for Grade Cross-Tabulated With Knowledge of Elderly Outside of Family Structure

	Knowledge	
Grade	Yes	No
3 year old - kindergarten	5	55
First-third	11	49
Fourth-sixth	23	37

$x^2 = 16.4975$, df = 2, $p < .0005$

Four year olds and kindergarten subjects had the least knowledge of others with 95% of the subjects responding "No." Fifth graders, 45%, and sixth graders, 40%, knew more elderly persons outside of their family. Housing-type, sex, and race were not significantly associated with knowledge of older persons outside of the family structure.

B. The responses from this sub-question, "What do you do with that person?" were used to probe the behavioral component of children's interactions with the elderly whom they know. The activities that the subjects engage in with elderly persons were active, passive, or "helping" in nature. With regard to the active dimension of interaction with the elderly, 43.3% of the total sample, 78 subjects, did active things, 56%, or 102 subjects, did not. Grade level, race, sex,

and housing type were not significantly associated with active interactions with the elderly.

Of the total sample, 73 subjects, 40.6%, engaged in passive activities with the elderly while 107 subjects, 59.4% ,did not. Grade level was associated with passive interactions (x^2=15.947, df=8, $p < .0431$), with passive interactions increasing with grade level. When the sample was divided into two groups for analysis, significant differences were found between the 3 year olds to third grade and the fourth to sixth grade. The results are presented in Table 3 specifying these differences.

TABLE 3

Chi-Square Table For Grade Cross-Tabluated

With Passive Interactions With Elderly

	Passive Interactions	
Grade	Yes	No
3 year old to third	39	81
Fourth to sixth	34	26

x^2=8.7137, df=1, $p < .0036$

Fourth graders had the greatest frequency of passive interaction, 65% of subjects, and kindergarten children reported the smallest frequency of passive interactions, 20% of subjects. Sex and race were not associated with passive interactions with elderly persons. Housing type however was associated with

doing passive things with the elderly. Rural and farm subjects reported doing fewer passive things with older people than town and development subjects. The results specifying these differences are presented in Table 4.

TABLE 4

Chi-Square Table For Housing Type Cross-Tabulated With Passive Interactions With Elderly

	Passive Interactions	
Housing Type	Yes	No
Rural and Farm	17	41
Town and Development	45	36

$x^2=8.385$, df=1, $p < .0042$

Of the total sample, 67 subjects, 37.2%, engaged in "helping" behaviors doing things "for " and with the elderly, 113, 62.8%, did not. Grade level was associated with "helping" behaviors ($x^2=20.161$, df=8, $p < .0097$). When the sample was divided into three grade groups for analysis, significant differences were found between the 3 year old to first grade group, the second to fourth grade group, and the fifth and sixth grade group with second through fourth grades engaging in significantly more "helping" behaviors, and the youngest group doing less "for" the elderly. The results are presented in Table 5 specifying these differences.

TABLE 5

Chi-Square Table for Grade Cross-Tabulated With "Helping" Behavior

	"Helping" Behavior	
Grade	Yes	No
3 year old to first	19	61
Second - fourth	34	2[illegible]
Fifth - sixth	14	26

$x^2=16.0065$, df=2, $p < .0006$

Black subjects reported engaging in significantly more helping behaviors than did white subjects. The probability of engaging in helping behaviors if white was .302 while the probability if black was .549. The results are presented in Table 6 specifying these differences.

TABLE 6

Chi-Square Table For Race Cross-Tabulated With "Helping" Behavior

	"Helping" Behavior	
Race	Yes	No
White	39	90
Black	28	23

$x^2=8.493$, df=1, $p < .0036$

Housing type was also associated with "helping" behavior toward the elderly with rural children engaging in significantly more "helping" behavior. The probability of engaging in "helping" interactions if a rural subject was .604. The results specifying these differences are presented in Table 7. Sex was not associated with engaging in "helping" behaviors with elderly persons.

TABLE 7

Chi-Square Table For Housing Type Cross-Tabulated With "Helping" Behavior

	"Helping" Behavior	
Housing Type	Yes	No
Rural	32	21
Others	27	59

$x^2 = 10.1195$, df=1, $p < .0019$

Section 3:

The responses from the question, "Can you give me another name for old people?" were used to determine the extent to which sample children can elaborate on their knowledge of old people by providing alternate names. Are the children familiar with the other words commonly used in place of old people? Of the total sample, twelve children, 6.7%, could provide an alternate word for old people, while 168 subjects, 93.3%, could not. The ability to

provide an alternate word was associated with grade (x^2=28.929, df=8, $p < .0003$) with more subjects providing alternates at the higher grade levels. No subject could provide an alternate before third grade level while 25% of fifth graders and 25% of sixth graders could provide an alternate. When the subjects were divided into two groups for analysis, significant differences were found between the 3 year old to fourth grade group and the fifth and sixth grade group. The results specifying these differences are presented in Table 8.

TABLE 8

Chi-Square Table For Grade Cross-Tabulated With Ability To Provide An Alternate Name For Old People

	Ability to Provide An Alternate Name	
Grade	Yes	No
3 year old to fourth	2	138
Fifth and sixth	10	30

x^2=24.1215, df=1, $p < .00002$

The probability of providing a name if a fifth or sixth grader was .25. Housing type, race, and sex were not associated with the ability to provide another word for old people.

Section 4:

The responses from the question, "How do you feel about getting old?" were used to determine the subjects' feelings about the prospect of getting

old. This involved their image of future self. Of the total sample, 57 subjects, 31.7%, were unable to give a response, 20 subjects, 11.1%, had positive feelings, 28 subjects, 15.6%, had neutral feelings, and 71 subjects, 41.7%, gave negative responses to the prospect of aging.

Grade level (3 year old - sixth) was associated with feelings about getting old (x^2=31.455, df=16, $p < .0118$). Fifth and sixth graders gave fewer negative responses than the other two groups. The probability of a negative response if a fifth grader was .438 and if a sixth grader was .353. The probability of a negative response statement if in kindergarten was .917 and if in second grade was .867. Fifth and sixth graders also gave more neutral feeling responses. When the sample was divided into three groups for the purpose of analysis, significant differences were found between the 3 year old to kindergarten group, the first to fourth grade group, and the fifth to sixth grade group. The results are presented in Table 9 specifying these differences. Sex, race, and housing type were not associated with the category of feeling response about getting old.

TABLE 9

Chi-Square Table For Grade Cross-Tabulated

With Feeling About Getting Old

	Feeling About Getting Old		
Grade	Positive	Neutral	Negative
3 year old to kindergarten	7	6	23
First - Fourth	7	8	39
Fifth and Sixth	6	14	13

x^2=12.0416, df=4, $p < .0173$

Semantic Differential Subtest

Semantic differential data were used to test the hypothesis that there would be a difference in children's ratings of the two concepts, young people and old people on five point bi-polar scales. Further analysis would also reveal any significant differences in how specific items for these concepts were rated by each grade. Table 10 presents the mean scores and standard deviations for the total score on young people and old people for the total sample of children, and for each grade level. T-tests revealed no significant differences for the total sample on the young people and old people concepts, however, differences by grade level were noted. Second graders rated the concept young people higher than the concept old people (t, 1.856, $p<.05$). Fourth graders (t, -1.96, $p<.05$), and fifth graders (t, -1.897, $p<.05$) rated the concept old people higher than the concept young people.

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TABLE 10

Means and Standard Deviations for Summed Score On Concepts Young People and Old People For Total Sample and By Grade

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	37.294	6.708	37.028	7.373
Preschool	35.800	10.330	34.700	10.127
Kindergarten	38.050	6.823	37.700	6.017
Grade 1	37.950	5.652	36.950	7.890
Grade 2	40.350	5.199	36.050[1]	9.019
Grade 3	37.650	5.341	36.350	5.062
Grade 4	36.150[2]	3.151	38.450[2]	4.201
Grade 5	37.150[3]	3.336	39.400[3]	4.128
Grade 6	36.750	4.460	38.950	4.466

[1] t, 1.856, p .05; [2] t, -1.96, p .05; [3] t, -1.897, p .05

A consideration of item scores provides more detailed information of children's ratings of the concepts young people and old people on specific bi-polar adjectives. Tables 11-20 present means and standard deviations for each item rating of young people and old people for the total sample, and by grade level. No significant differences in mean scores as reported in Table 11 were found on the help-harmful scale (items 1 and 20).

TABLE 11

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People

For Total Sample and By Grade

Items 1 and 20
(helpful-harmful)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.833	1.200	4.006	1.209
Preschool	3.700	1.778	3.925	1.664
Kindergarten	3.850	1.195	3.800	1.249
Grade 1	3.850	1.014	3.850	0.943
Grade 2	4.250	1.043	4.100	0.943
Grade 3	3.950	0.865	4.000	1.049
Grade 4	3.500	0.592	3.800	1.122
Grade 5	3.950	1.023	4.400	0.917
Grade 6	3.750	0.766	4.250	0.829

The total sample (t, 7.984, $p < .05$), the preschool (t, 3.195, $p < .05$), the kindergarten (t, 1.875, $p < .05$), the second grade (t, 3.846, $p < .05$), the third grade (t, 2.46, $p < .05$), the fourth grade (t, 3.125, $p < .05$), the fifth grade (t, 5.134, $p < .05$), and the sixth grade (t, 3.45, $p < .05$) all rated young people significantly higher on the healthy-sick continuum (items 2 and 19). Except for first graders, the total sample saw old people as significantly more sick than young people. The data are reported in Table 12.

TABLE 12

Means and Standard Deviations for Item Scores

On Concepts Young People and Old People For

Total Sample and By Grade

Items 2 and 19

(healthy-sick)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.756[1]	1.209	2.750[1]	1.303
Preschool	3.600[2]	1.786	2.325[2]	1.780
Kindergarten	3.800[3]	1.122	3.050[3]	1.396
Grade 1	3.700	0.954	3.100	1.375
Grade 2	4.000[4]	1.049	2.550[4]	1.322
Grade 3	3.700[5]	1.005	2.959[5]	0.921
Grade 4	3.450[6]	0.805	2.700[6]	0.714
Grade 5	3.950[7]	0.805	2.800[7]	0.600
Grade 6	4.000[8]	0.949	2.950[8]	0.973

[1] t, 7.984; [2] t, 3.195; [3] t, 1.875; [4] t, 3.846; [5] t, 2.46; [6] t, 3.125; [7] t, 5.134;

[8] t, 3.45; ($p < .05$ for all 8 t's)

On the rich-poor scale (items 3 and 18) significant differences in mean scores occurred for the total sample (t, -2.317, $p < .05$), and for the preschool (t, -2.56) in favor of the concept old people, that is, old people are seen as significantly richer by these groups.

The data are reported in Table 13.

TABLE 13

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 3 and 18
(rich-poor)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	2.972[1]	1.123	3.250[1]	1.277
Preschool	2.600[2]	1.855	3.650[2]	1.810
Kindergarten	2.950	1.322	3.200	1.288
Grade 1	2.950	0.865	3.450	1.322
Grade 2	3.250	0.942	3.000	1.483
Grade 3	3.300	0.557	3.000	0.775
Grade 4	3.000	0.000	3.050	0.805
Grade 5	3.050	0.497	3.100	0.700
Grade 6	3.050	0.218	3.150	0.477

[1] t, -2.317, $p < .05$; [2] t, -2.56, $p < .05$

On the clean-dirty scale (items 4 and 17) second graders rated the concept young people higher (t, 1.818, $p < .05$), while fourth graders (t, -3.972, $p < .05$), fifth graders (t, -2.941, $p < .05$), and sixth graders (t, -2.113, $p < .05$) rated old people higher. That is, old people are seen as more dirty by second graders, while the other groups rated them as more clean. The data are reported in Table 14.

TABLE 14

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 4 and 17 (clean-dirty)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.778	1.276	3.928	1.329
Preschool	3.500	1.830	3.375	1.867
Kindergarten	3.750	1.374	3.900	1.091
Grade 1	4.000	0.894	3.850	1.195
Grade 2	4.400[1]	1.020	3.700[1]	1.389
Grade 3	3.650	0.910	3.600	1.020
Grade 4	3.850[2]	0.792	4.700[2]	0.536
Grade 5	3.650[3]	1.108	4.500[3]	0.671
Grade 6	3.700[4]	0.954	4.300[4]	0.843

[1] t, 1.818; [2] t, -3.972; [3] t, -21941; [4] t, -2.113

($p < .05$ for all 4 t's)

On the friendly-unfriendly scale, (Items 5 and 16) old people were rated significantly higher by the total sample (t, -1.89, $p < .05$) and by the sixth grade (t, -3.136, $p < .05$). Thus old people are seen as more friendly by these two groups. The data are reported in Table 15.

TABLE 15

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 5 and 16
(friendly-unfriendly)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.939[1]	1.283	4.183[1]	1.152
Preschool	3.350	1.891	3.850	1.726
Kindergarten	4.150	1.062	4.350	0.792
Grade 1	4.300	0.781	3.850	1.195
Grade 2	4.200	1.077	3.900	1.044
Grade 3	4.150	0.853	4.450	0.740
Grade 4	4.200	0.812	4.350	0.853
Grade 5	4.050	1.071	4.500	0.671
Grade 6	3.700[2]	1.054	4.550[2]	0.589

[1] t, -1.89, $p < .05$; [2] t, -3.136, $p < .05$

The concept young people was rated significantly higher on the pretty-ugly scale (Items 6 and 15) by the total sample (t, 4.698, $p < .05$), by the preschool (t, 2.953, $p < .05$) and by the third grade (t, 2.89, $p < .05$). That is, old people were viewed as more ugly by these groups. The data are reported in Table 16.

TABLE 16

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 6 and 15 (pretty-ugly)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	4.039[1]	1.002	3.494[1]	1.254
Preschool	4.300[2]	1.382	3.225[2]	1.837
Kindergarten	4.150	0.963	3.950	1.023
Grade 1	4.050	0.865	3.600	0.970
Grade 2	4.250	0.829	3.850	1.236
Grade 3	4.050[3]	0.805	3.350[3]	0.726
Grade 4	3.650	0.726	3.200	1.122
Grade 5	3.700	0.781	3.500	0.742
Grade 6	3.900	0.768	3.550	0.973

[1] t, 4.698, $p < .05$; [2] t, 2.953, $p < .05$; [3] t, 2.89, $p < .05$

An analysis of items 7 and 14 (wonderful-terrible scale) revealed significant differences for the total sample (t, -1.93, $p < .05$), and for the fourth grade (t, -2.365, $p < .05$) in favor of the concept old people. Old people are seen as more wonderful by these groups. The data are reported in Table 17.

TABLE 17

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 7 and 14
(wonderful-terrible)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.794[1]	1.223	4.028[1]	1.204
Preschool	3.550	1.802	3.775	1.739
Kindergarten	4.000	1.183	4.000	1.225
Grade 1	3.800	0.872	3.800	1.030
Grade 2	3.950	1.117	3.900	1.136
Grade 3	3.800	0.812	4.050	0.805
Grade 4	3.650[2]	0.963	4.350[2]	0.910
Grade 5	3.800	0.872	4.150	0.792
Grade 6	4.050	1.023	4.450	0.742

[1] t, -1.93, $p < .05$; [2] t, -2.365, $p < .05$

On the right-wrong continuum (items 8 and 13) the concept old people was rated significantly higher by the forth grade (t, -2.076, $p < .05$), the fifth grade (t, -2.03, $p < .05$), and the sixth grade (t, -2.273, $p < .05$). Old people are seen as more right by these groups. The data are reported in Table 18.

TABLE 18

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

	Items 8 and 13 (right-wrong)			
	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.611	1.171	3.667	1.308
Preschool	4.025	1.604	3.525	1.830
Kindergarten	3.750	1.337	3.650	1.108
Grade 1	3.800	0.872	3.650	1.314
Grade 2	3.750	1.178	3.700	1.187
Grade 3	3.400	0.800	3.350	0.910
Grade 4	3.700[1]	0.748	3.800[1]	0.927
Grade 5	3.450[2]	0.921	4.100[2]	1.091
Grade 6	3.100[3]	0.539	3.700[3]	1.054

[1] t, -2.076, $p < .05$; [2] t, -2.03, $p < .05$; [3] t, -2.273, $p < .05$

On items 9 and 12 (happy-sad scale), the concept young people was rated significantly higher by the total sample (t, 1.795, $p < .05$), the second grade (t, 1.826, $p < .05$), the third grade (t, 2.55, p .05), and the fifth grade (t, 2.346, $p < .05$). Old people were seen as more sad by these groups. The data are reported in Table 19.

TABLE 19

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 9 and 12

(happy-sad)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.800[1]	1.293	3.752[1]	1.247
Preschool	3.050	1.883	3.650	1.797
Kindergarten	3.800	1.077	3.750	0.994
Grade 1	3.950	1.071	3.550	1.203
Grade 2	4.100[2]	0.889	3.450[2]	1.322
Grade 3	3.900[3]	1.044	3.100[3]	0.943
Grade 4	3.900	0.831	3.750	0.766
Grade 5	4.300[4]	0.843	3.650	0.910
Grade 6	4.150	0.853	3.600	0.860

[1] t, 1.795; [2] t, 1.826; [3] t, 2.55; [4] t, 2.346 ($p < .05$ for all 4 t's)

On the good-bad scale (Items 10 and 11) the preschool rated the concept young people significantly higher (t, 1.87, $p < .05$). That is, they saw old people as more bad. For the total sample (t, -3.048, $p < .05$), first grade (t, -1.827, $p < .05$), third grade (t, -2.62, $p < .05$) fourth grade (t, -3.893, $p < .05$) fifth grade (t, -5.492, $p < .05$), and sixth grade (t, -4.198, $p < .05$), the concept old people received significantly higher ratings. Old people, then, are seen as more good by these groups. The data are reported in Table 20.

TABLE 20

Means and Standard Deviations for Item Scores On Concepts Young People and Old People for Total Sample and By Grade

Items 10 and 11

(good-bad)

	Young People		Old People	
Level	Mean	SD	Mean	SD
Total Sample	3.772[1]	1.178	4.150[1]	1.293
Preschool	4.125[2]	1.536	3.400[2]	1.908
Kindergarten	3.850	0.853	4.050	1.071
Grade 1	3.550[3]	1.359	4.250[3]	1.043
Grade 2	4.200	0.872	3.900	1.179
Grade 3	3.750[4]	0.942	4.500[4]	0.866
Grade 4	3.750[5]	0.887	4.700[5]	0.640
Grade 5	3.250[6]	0.994	4.700[6]	0.640
Grade 6	3.350[7]	0.910	4.450[7]	0.740

[1] t -3.048; [2] t 1.87; [3] t -1.827; [4] t -2.62; [5] t -3.893; [6] t -5.492; [7] t -4.198 ($p < .05$ for all 7 t's)

SUMMARY

For the total sample of children (N=180), the concept, old people, was rated negatively as sick, ugly, and sad. However, old people were seen positively as rich, friendly, wonderful, and good. The preschool group (N=40) rated the concept old people negatively as sick, ugly, and sad, but positively as rich. The kindergarten group (N=20) rated the concept old people negatively as sick. The first grade (N=20) rated the concept old people positively as good. The concept old people was seen negatively by the second grade (N=20) on the total score and also as sick, dirty, and sad. The concept old people was rated negatively by the third grade as sick, ugly, and sad, but positively as good.

Fourth graders favored the concept old people on the total score and saw them positively as clean, wonderful, good, and right. On the other hand, they rated old people negatively as sick. Fifth graders also favored the concept old people on the total summed score and rated the old people positively as clean, right, and good. They were also seen negatively as sick and sad. Sixth graders rated the concept old people positively as friendly, right, good, and clean, but they saw old people negatively as sick. On the summed score for the total scale items, second graders rated the concept young people higher, while forth and fifth graders favored the concept old people.

PICTURE SERIES SUBTEST

The Picture Series Subtest of The CATE was based upon the four 8" x 10" drawings of men at four stages of life. The drawings were photographed for use as part of the instrument. Validation of the age range estimates was established by graduate students in the field of aging and human development. Table 21 presents the means and standard deviations of the four pictures given by the graduate students. Picture 1 represents the youngest man progressing to Picture 4 representing the oldest man.

TABLE 21

Means and Standard Deviations of

Age Estimates of the Four Pictures

Graduate Students (N=35)	Picture 1	Picture 2	Picture 3	Picture 4
Mean	30.6	44.5	63.74	77.43
SD	5.2	6.52	7.29	6.16

Section I:

A. The responses from the question, "which person do you think is the oldest, and why?" were used to answer the following questions: Are children able to identify the oldest of four men of various ages? On what basis do they make such an identification? Of the total sample, 165 children were able to correctly identify the picture representing the oldest man. Only 15 children were unable to identify the picture of the oldest man. Absolute and relative frequencies are presented in Table 22.

TABLE 22

Frequencies of Identification of Picture

Representing Oldest Man for Total Sample

Category	Absolute Frequency	(Percent) Relative Frequency
Yes	165	91.7
No	15	8.3

Ability to identify the oldest man was cross-tabulated by grade level. The results were significant ($x^2 = 22.255$, $df = 8$, $p < .0045$). Significance

was found between the 3 year old to kindergarten group and the first to sixth grade group, with older children making significantly more correct identifications. Presented in Table 23 are the results specifying these differences.

TABLE 23

Chi-Square Table for Grade Cross-Tabulated with Ability to Identify Picture 4 as the Oldest Man

Grade	Response: Yes	No
3 year to kindergarten	48	12
first - sixth	117	3

$x^2 = 13.827$, $df = 1$, $p < .0005$

No association was found between sex, race, or the housing type of the respondent and the ability to identify picture 4 as the oldest man.

When asked on what basis they made their identification, of the total sample, 22 children were unable to give a reason, however, 50 children based their identification on evaluative reasons and 108 children chose on the basis of physical-descriptive statements. Table 24 presents the frequencies of choice of category statements.

TABLE 24

Frequencies of Choice of Evaluative And Physical Descriptive Statements For Total Sample

Category	Absolute Frequency	(Percent) Relative Frequency
No response	22	12.2
Evaluative	50	27.8
Physical Descriptive	108	60.0

Grade level was associated with the choice of the evaluative or physical-descriptive category as a basis for identification of the oldest man (x^2 = 43.274, df = 8, p $<$.0001). Differences were found between three groups, 3 year olds to kindergarten, first through third, and fourth through sixth. As grade level increased, the tendency to base choice on the evaluative statements decreased, and the tendency to base a choice on physical descriptive statements increased. The results specifying these differences are presented in Table 25. Race, sex, and housing type were not significantly associated with choice of evaluative or physical-descriptive categories.

TABLE 25

Chi-Square Table for Grade Cross-
Tabulated with Choice of Evaluative
Or Physical-Descriptive Category Statements

Grade	Category	
	Evaluative	Physical-Descriptive
3 year old - kindergarten	28	14
first - third	16	40
fourth - sixth	6	54

x^2 = 37.0545, df = 2, p $<$ .0001

B. The responses from the question, "How will you feel when you are that old?" were used to determine how children feel about being old when they are presented with a concrete visual image of future self represented by the picture of the oldest man. Of the total sample, 37 children did not respond, 24 children made positive statements, 11 children made neutral statements,

and 108 children made statements that were considered negative in nature. Table 26 presents the frequencies of positive, neutral, and negative responses.

TABLE 26

Frequencies of Choice of Positive,

Neutral, and Negative Feeling Categories

For Total Sample

Feeling Category	Absolute Frequency	(Percent) Relative Frequency
No response	37	20.6
Positive	24	13.3
Neutral	11	6.1
Negative	108	60.0

Grade level was significantly associated with feeling statements about old age ($x^2 = 34.662$, df = 16, $p < .0044$). When the positive and neutral response categories were combined, the results indicated that fifth and sixth graders gave significantly more positive and neutral responses about being as old as the oldest man than the other two groups. Children in the 3 year old to kindergarten group, and the first through fourth grade group gave increasingly more negative feeling statements in response to the question as grade level increased. Presented in Table 27 are the results specifying these differences.

TABLE 27

Chi-Square Table for Grade Cross-Tabulated With Positive-Neutral and Negative Feeling Statements About Being Old

Grade	Feeling Category	
	Positive-Neutral	Negative
3 year old - kindergarten	9	30
first - fourth	10	60
fifth and sixth	16	18

$x^2 = 13.3539$, df = 2, $p < .0017$

Housing type was associated with category of feeling statements ($x^2 = 12.973$, df = 6, $p < .0435$). When positive and neutral categories were combined, town and development children were less negative than rural and farm children. Rural children were the most negative. Negative statements were made by 93.5% of the rural children. The results specifying these differences are presented in Table 29.

TABLE 29

Chi-Square Table for Housing Type Cross-Tabulated with Positive-Neutral and Negative Feeling Statements about Being Old

Housing Type	Feeling Category	
	Positive-Neutral	Negative
Rural and Farm	5	45
Town and Development	21	46

$x^2 = 6.362$, df = 1, $p < .0114$

C. The responses from the question, "What things would you help this person do?" were used to analyze the sample children's projected "helping" behavior toward the elderly. Of the total sample 39 children made no response, 9 children chose affective ways to help. 120 children gave stereotyped responses, and 12 children made unique responses. Stereotyped responses accounted for 66.7 percent of total responses. The results are summarized in Table 30.

TABLE 30

Frequencies of Choice of Affective,
Stereotyped, and Unique Categories of
"Helping" Behavior Toward the Elderly Person

Category	Absolute Frequency	(Percent) Relative Frequency
No response	39	21.7
Affective	9	5.0
Stereotyped	120	66.7
Unique	12	6.7

There was no association between grade level and category of "helping" behavior statements. Race, housing type, and sex were not significantly related to category statements.

D. The responses from the question, "What things could he help you do?" were used to analyze the "helping" behaviors that the subjects would expect the elderly to adopt toward them. While 59 subjects made no response, 11 children categorized projected "helping" behavior on the part of the old person as affective. Behavioral - stereotyped statements were made by 110 children accounting for 61.1% of all statements. Grade level, housing type, race, and sex were not associated with statements categorized as "helping"

behaviors by the elderly. The results are summarized in Table 31.

TABLE 31

Frequencies of Choice of Affective and

Behavioral - Stereotyped Categories

of "Helping" Behaviors by Elderly

Category	Absolute Frequency	(Percent) Relative Frequency
No response	59	32.8
Affective	11	6.1
Behavioral - Stereotyped	110	61.1

Section 2:

A. The responses from the question, "Can you put these pictures in order from the youngest to the oldest?" were used to determine how well the subjects understand the concept of relative age, and at what age level children are able to order pictures depicting four stages of life. Of the total sample, 125 subjects, 69.4%, were able to order the pictures while 55 subjects, 30.6%, could not order the pictures. Grade level was significantly associated with ability to order the four pictures ($x^2 = 57.705$, $df = 8$, $p < .0001$). When grade level was collapsed into three groups, the data suggested that the ability to order the pictures increased with age. In the 3 year old to kindergarten group, the majority of children were unable to order the pictures, however there were few errors in the fourth to sixth grade group. In the youngest group, 80% of the 3 year olds, 55% of the 4 year olds and 60% of the kindergarten subjects could not order the pictures. Sex, race, and housing type were not significantly associated with the ordering of the pictures. Presented in Table 32 are the results specifying these differences.

TABLE 32

Chi-Square Table for Ability to Order Pictures Cross-Tabulated with Grade

Grade	Ability to Order Pictures Yes	No
3 year old - kindergarten	21	39
first to third	47	13
fourth to sixth	57	3

$x^2 = 54.2487$, df = 2, $p < .000$

B. The responses from the question, "How old do you think each of these men are?" were used to determine the judgmental accuracy of the subjects in the assignment of ages in numbers to each of the men portrayed in the pictures. Specifically: (1) does judgmental accuracy increase with age? (2) are ages in numbers, or indices, a meaningful concept to the youngest children? Table 33 presents the mean age estimates and standard deviations by grade level, for each of the pictures of men at four stages of life.

TABLE 33

Means and Standard Deviations of Age Estimates

by Grade for Pictures of Four Men

Grade		Picture 1	Picture 2	Picture 3	Picture 4
3 year olds	Mean	5.7	4.8	6.3	6.5
	SD	4.4	5.1	4.5	4.4
4 year olds	Mean	11.3	15.0	16.0	25.4
	SD	9.3	14.4	19.5	26.8
Kindergarten	Mean	24.8	21.1	25.6	27.9
	SD	28.0	20.0	29.5	30.5
First	Mean	28.2	33.1	41.2	59.4
	SD	21.4	23.8	22.8	40.3
Second	Mean	29.0	33.7	42.7	70.9
	SD	15.3	16.9	25.6	29.4
Third	Mean	29.5	38.9	51.2	65.0
	SD	9.9	17.1	18.7	24.6
Fourth	Mean	29.7	38.1	52.5	70.2
	SD	6.6	8.2	8.0	11.9
Fifth	Mean	29.7	40.8	55.1	71.6
	SD	11.8	10.1	8.6	13.2
Sixth	Mean	25.1	34.5	49.0	62.7
	SD	4.9	5.6	9.6	8.1
Graduate Students	Mean	30.6	44.5	63.7	77.4
	SD	5.2	6.5	7.3	6.2

The ability to assign indices increased with age. Three year olds, and 4 year olds, exhibited a limited repertoire of possible age estimates. Standard deviations were large until the fourth grade level. An exception to this was three year olds who all gave assigned ages under 10. Subjects at higher grade levels exhibited an increase in judgmental accuracy. Age estimates, however, were lower than those of the graduate school classes of all four pictures.

Age estimates on each of the four pictures were coded for the purpose of analysis. The absolute and relative frequencies of coded age estimates on each of the four pictures for the total sample of subjects are presented in Table 34.

TABLE 34

Frequencies of Coded Age Estimates on Four Pictures for Total Response

	Picture 1		Picture 2		Picture 3		Picture 4	
Coded age	Absolute Frequency	Relative Frequency	Absolute Frequency	Relative Frequency	Absolute Frequency	Relative Frequency	Absolute Frequency	Relative Frequency
No response	2	1.1	2	1.1	2	1.1	2	1.1
0 to 20	90	50.0	65	36.1	58	32.2	50	27.8
21 to 40	74	41.1	75	41.7	32	17.8	11	6.1
41 to 60	9	5.0	29	16.1	58	32.2	40	22.2
61 to 80	2	1.1	8	4.4	24	13.3	39	21.7
81 to 100	3	1.7	1	0.6	6	3.3	38	21.1

When coded data were analyzed by grade level, the ability to assign indices by estimating within the correct coded category was significantly associated with grade level for each of the four pictures. (Picture 1, x^2 =84.314 df=32, p<.0001; Picture 2, x^2 =118.116, df=32, p<.0001; Picture 3, x^2 =160.245, df=32, p<.0001; Picture 4, x^2 =164.030, df=32, p<.0001). Younger children's responses clustered in the 0-20 category on all four age estimates.

Race and housing were not associated with coded age estimates. Sex, however, was significantly associated with assignment of coded indices only on Picture 4. Males gave a greater frequency of age estimates in the 81 to 100 category (x^2 =10.776, df=4, p<.0292), than females for picture 4.

Section 3:

A. The responses from the question, "Which of these people would you prefer to be with? Why?" were used to determine how children felt about being with people at the four stages of life represented by the pictures. The frequencies of preference for the total sample are presented in Table 35.

TABLE 35

Frequencies of Preference for Four Pictures for Total Sample

Picture Picture	Absolute Frequency	Relative Frequency (%)
No response	5	2.8
1-Youngest Man	104	57.8
2-Second Youngest Man	20	11.1
3-Third Oldest Man	16	8.9
4-Oldest Man	35	19.4

Of the total sample, 104 subjects, 57.8% picked the youngest man as the one they preferred to be with, thirty-five subjects, 19.4%, stated that they preferred to be with the oldest man.

Grade level was not significantly associated with preference (x^2 =35.416, df=24, $p<.0625$), however, a trend towards more preferences for the oldest two men in the older age groups than in the younger age groups ($p<.0625$) was noted. At the fourth, fifth, and sixth grade levels, the probabilities of preferences for the two oldest men were .45, .40, and .40 respectively. On the other hand, four year olds through second graders strongly preferred the two youngest men with probabilities of preference ranging from .684 to .90.

Housing type, race, and sex were not significantly associated with preference. There seemed, however, to be a trend indicating more preferences for the oldest two men on the part of the female subjects than the male subjects, (x^2 =7.479, df=3, $p<.058$) Both males, 79.5%, and females,62%, preferred the youngest two men.

When asked on what basis they made their choice of one of the men to be with, 22 children did not respond. Forty-seven subjects made age-related statements, 19 made altruistic statements, and 92 children gave evaluative statements. The results are presented in Table 36.

TABLE 36

Category	Absolute Frequency	Relative Frequency (%)
No response	22	12.2
Age-related	47	26.1
Altruistic	19	10.6
Evaluative	92	51.1

Grade level was associated with the type of response upon which subjects based their preference (x^2 =50.381, df=16, $p<.001$). When the subjects were divided into 3 groups for the purpose of analysis, 3 year olds to first graders made significantly more evaluative statements, and second to fourth graders based their preference on more age-related and altruistic statements. The preschool group had the greatest frequency of evaluative response (100% for the 3 year olds and 92.3% for the 4 year olds). The largest probability (.588) of an age-related response was in the third grade. The cross tabulation of the 3 groups with category of preference statement is presented in Table 37.

TABLE 37

Chi-Square Table For Category of Preference Statement Cross-Tabulated With Grade

	Category of Preference Statement		
Grade	Age Related	Altruistic	Evaluative
3 year old-first	12	2	53
second-fourth	21	13	18
fifth-sixth	14	4	21

x^2 =27.6867, df=4, $p<.0001$.

Sex and housing type were not associated with reason for preference categories. Race was significantly associated with response category. White subjects gave more evaluative responses and black children more age-related responses. The probability of black giving an age-related response was .477, and the probability of white was .228. The results specifying these differences are presented in Table 38.

TABLE 38

Chi-Square Table for Category of Preference Statement Cross-Tabulated with Race

Race	Category of Preference Statement		
	Age-Related	Altruistic	Evaluative
White	26	12	76
Black	21	7	16

$x^2 = 12.399$, df = 2, $p < .0020$

It was of interest to determine the basis on which the subjects chose the oldest two men. Of the total sample selecting the oldest man as the one they preferred to be with (N = 35), 19 gave altruistic reasons for their choice, 13 gave evaluative statements, 2 based their choice on age, and 1 gave no reason. Of those who preferred the next oldest man to be with (N = 16), 14 subjects based their preference on evaluative reasons, 1 on age, and 1 subject gave no response. Thus age-related reasons accounted for only 3 choices.

B. The responses from the question, "What kinds of things could you do with that person?" were used to determine if there would be a difference in children's projected **interactions** with men of different ages. Specifically, would there be a difference in activites based on the choice of the youngest two men or the oldest two men. When preference for men was cross-tabulated with choice of activity category for the total sample, there was a significant association between preference for the youngest two men and active interactions, and preference for the oldest two men and passive interactions. Presented in Table 39 are the results specifying these differences.

TABLE 39

Preference For Youngest and Oldest Men Cross-Tabulated With Interaction Categories

Preference	Interaction Categories Active	Passive	For
Youngest (1+2)	86	6	10
Oldest (3+4)	15	16	11

$x^2 = 35.7023$, df = 2, $p < .0001$

The Child's Concept of Age Subtest

In order to test out the hypothesis that children follow a cognitive-developmental sequence in their ability to understand age concepts, a 3-way analysis of variance was used to determine whether there was a significant difference in children's performance based upon sex and grade level.

Table 40 provides the mean scores for the Piaget-based concept of age test. Mean scores increased with grade level.

TABLE 40

Mean and Standard Deviations on Child's Concept of Age by Grade and Sex

GRADE	SEX	MEAN SCORE	SD
6	M	24.417	4.078
	F	24.000	3.703
5	M	23.400	2.503
	F	20.700	2.983
4	M	19.800	3.736
	F	21.900	4.306
3	M	19.222	5.498
	F	19.636	4.178
2	M	16.400	5.103
	F	15.200	3.553
1	M	14.182	3.219
	F	13.000	2.646
Kgn.	M	10.667	6.020
	F	11.500	3.964
4 yr. olds	M	6.600	5.082
	F	9.700	5.187
3 yr. olds	M	5.000	4.408
	F	4.000	3.104

As seen in Table 41, grade main effect was the only significant ($p<.001$) factor related to scoring on the Piaget-based concept of age. Sex main effect ($p<.376$) and sex-grade interaction ($p<.498$) did not reach significance.

TABLE 41

Analysis of Variance Summary Table for The Child's Concept of Age

	SS	df	MS	F	p
Sex	13.871	1	13.871	.787	.376
Grade	7297.805	8	909.976	51.601	.001
Sex-Grade	130.479	8	16.310	.925	.498

Further analysis was done employing the Newman-Keuls procedure to determine pairwise contrasts between grades. There was a significant difference between 3 year olds' performance on the test and all other grade levels. Performance by 4 year olds was also significantly different from all other grades. There was a significant difference between kindergarten scores and all other grades except first grade. Significant differences were found between first grader's scoring and every other grade except kindergarten and second grade. Second grade scores were significantly different from all other grades except first. There were significant differences between performance on the test by third graders and all other grades except fourth and fifth. Fourth grade scoring was significantly different from all other grades except third and fifth. The fifth grade scores were significantly different from all grades except fourth and sixth. Performance by the sixth grade was significantly

different from every grade except fifth grade. This information is summarized in Table 42.

TABLE 42

Newman-Keuls Summary Table
Grade Level Differences for
The Child's Concept of Age

	Significance by Level								
Level	3 yr olds	4 yr olds	K	1	2	3	4	5	6
3 yr olds		*	*	*	*	*	*	*	*
4 yr olds	*		*	*	*	*	*	*	*
K	*	*			*	*	*	*	*
1	*	*				*	*	*	*
2	*	*	*			*	*	*	*
3	*	*	*	*	*				*
4	*	*	*	*	*				*
5	*	*	*	*	*	*			
6	*	*	*	*	*	*	*		

*Significant at the .001 level

Summary:

Children's performance on the Piaget-based Concept of Age instrument was analyzed using a 3-way analysis of variance to assess the effect of grade, sex, and sex-grade interaction on scoring. Grade main effect was significant ($p < .001$) while sex and sex-grade interaction did not reach significance. In order to determine where grades differed significantly in performance, pairwise contrasts were evaluated according to the Newman-Keuls procedure. There were significant differences between all grades

except kindergarten and first grade, first and second grade, third and fifth grade, fourth and fifth grade, fifth and sixth grade. Except for the preschool levels, there were no significant differences between adjacent grades. Differences became significant between grade levels that were not adjacent.

Further analyses revealed that the Child's Concept of Age test was highly associated with an established criterion, the three conservation tasks from the Goldschmid and Bentler Concept Assessment Kit. Children's performance on the Concept of Age test (total score) was significantly associated with conservation level as determined by the administration of three conservation tasks from the Assessment Kit, ($x^2 = 229.83$, $df = 93$, $p < .0001$). The total concept of age score was also significantly correlated with conservation level, ($r = .788$).

In addition, all items on the Concept of Age test were significantly associated with conservation level. These associations are reported in Table 43.

TABLE 43

Chi-Square Table by Item for Associations Between Concept of Age Test and Conservation Level

Item	Chi-Square	Degrees of Freedom	Probability
1	91.90	9	$p < .0001$
2	84.83	9	$p < .0001$
3	66.80	9	$p < .0001$
4	96.54	9	$p < .0001$
5	67.07	9	$p < .0001$
6	48.65	9	$p < .0001$
7	78.47	9	$p < .0001$
8	89.27	9	$p < .0001$
9	75.41	9	$p < .0001$
10	111.51	9	$p < .0001$
11	121.07	9	$p < .0001$
12	53.00	9	$p < .0001$

CHAPTER V

SUMMARY, CONCLUSIONS, AND IMPLICATIONS

It was the purpose of this study to 1) develop an instrument to assess children's attitudes toward the elderly and the aging process, 2) to employ this instrument with children in nursery school through sixth grades, and 3) to use the information obtained to develop a curriculum guide for promoting positive attitudes toward the elderly and the aging process in children in pre-school and elementary school programs.

The Children's Attitudes Toward the Elderly (The CATE) was administered to 180 children in nursery school through sixth grade. The instrument was designed to provide information to the following questions:

1. What do children know about the elderly?
2. How do children feel about the elderly?
3. What behaviors do children report the elderly as exhibiting toward them?
4. What behaviors do children report as exhibiting toward the elderly?
5. What contacts do children have with the elderly?
6. What differences within groups of children and between groups of children do we find in terms of their attitudes toward the elderly?
7. What perceptions do children have about their own aging and the aging process?
8. What concepts of age do children possess?

Contained in Chapter V is a summary of the findings from the administration of The CATE, the conclusions of the study centering around the

eight questions listed above, and a discussion of the implications for curriculum development of the results of the administration of The CATE.

SUMMARY

1. Children at all grade levels have limited knowledge of old people.
   a) Responses in the affective category, which accounted for 22% of all responses, tended to be positive.
   b) Sixteen percent of the responses were in the physical category and were negative in nature.
   c) Responses in the behavioral category, accounting for 60% of all responses, tended to be negative.
2. The majority of children at all grade levels were able to identify elderly persons within the family structure.
3. In general, children at all grade levels were not able to identify elderly persons outside the family structure, however, knowledge of the elderly increased as grade level increased. Forty percent of the sixth graders were able to identify old persons outside the family structure.
4. Children at all grade levels reported limited interactions with the elderly.
   a) Younger children in the kindergarten through the third grade, and children who lived on farms, or in rural areas, were more likely to report being involved with the elderly in active pursuits.
   b) Older children, fourth through sixth grade, reported that interactions they had with the elderly were of a passive nature.
   c) More second through fourth graders and black children and those living in rural areas, reported interactions with the elderly that were of a helping nature.

5. Children have limited knowledge of alternative names for old people. Only 7% of the total population provided an alternative name, however, the ability to give an alternative name increased with grade level, with 25% of the sixth graders providing an alternative.
6. Only 11% of the children responding gave a positive comment about growing old themselves.
   a) The probability of kindergarten children making a negative statement was .92, and the probability for a sixth grader was .35.
   b) A neutral or no response was made by 48% of the children.
7. In general, children could correctly identify the oldest man in a series of pictures depicting men of different ages. Only those children in the nursery school and kindergarten sample were not able to identify the oldest man correctly.
   a) As children increased in age, they tended to make this identification on the basis of physical characteristics of the man pictured.
   b) Younger children based their identification of the oldest man on the basis of evaluative criteria.
8. Children did not perceive being old as positive.
   a) Fifth and sixth graders were the most positive.
   b) First to fourth graders were the most negative.
   c) Black and rural children were more negative than white or town and development children.
9. Most children, when asked to tell what things they would help an older person do, gave responses that were concerned with the behavior of the elderly and were stereotypic in nature.

10. When asked what things an elderly person could do for them, children gave stereotypic responses.

11. Children in the first grade, or above, had little difficulty in ordering a series of pictures from the youngest to the oldest man. Forty percent at the kindergarten level could order the series of pictures.

12. Children below fourth grade demonstrated limited ability to assign age estimates to the pictures of the four men.

    a) The mean ages assigned by third graders approximated those assigned by the panel of judges, however, the standard deviations were very large.

    b) First and second graders assigned ages to the pictures that reflected the sequential ages of the men, however, the actual age estimates given were less accurate than those given by the third graders.

    c) The mean ages assigned to the pictures by the pre-schoolers and kindergarten children reflected little understanding of age concepts.

13. The majority of the children, 58% of the total sample, stated that they preferred to be with the youngest man represented in the four pictures. Only 19% indicated preferences for the oldest man.

    a) Fourth to sixth graders indicated a greater preference for the older man.

    b) Pre-schoolers to second graders reported a strong preference for the younger man.

14. The majority of the children, 51%, used evaluative criteria in making their selection of the person with whom they preferred to be.

a) Second to fourth graders used more age-related and altruistic criteria in making their selections.

b) For those choosing the oldest man (N = 35) more than half, 54%, did so for altruistic reasons.

15. When children stated a preference for the younger men, they indicated that they would take part in active interactions with these men; they gave examples of passive interactions to describe what they would do with the older men.

16. For the total sample, children assigned negative characteristics of sick, ugly, and sad to old people and positive characteristics of rich, friendly, wonderful, and good to old people. The following characteristics were assigned by levels.

LEVEL	NEGATIVE	POSITIVE
a) Pre-k	sick, ugly, bad	rich
b) 1-2	sick, dirty, sad	good
c) 3-4	sick, ugly, sad	good, clean, wonderful and right
d) 5-6	sick, sad	clean, right, good, and friendly

17. Children's concept of age score was significantly ($p < .05$) correlated with their conservation score.

18. A child's concept of age score increased with grade level. The significance by grade level is as follows:

a) 3 year olds were significantly different from all other levels.

b) 4 year olds were significantly different from all other levels.

c) Kindergarteners were significantly different from all other levels except first.

d) First graders were significantly different from all other levels except K and 2nd.

e) Second graders were significantly different from all other levels except first.

f) Third graders were significantly different from all other levels except 4th and 5th.

g) Fourth graders were significantly different from all other levels except 3rd and 5th.

h) Fifth graders were significantly different from all other levels except 4th and 6th.

i) Sixth graders were significantly different from all other levels except 5th.

Conclusions

Question 1. What Do Children Know About The Elderly?

Children at all age levels apparently have limited knowledge of older people. Although most children were able to identify an elderly person within their family structure, they could not identify elderly persons outside of the family structure. They also reported limited interactions with the elderly and few could give any alternative names for the term 'old people.' Some equated another name with grandparents and a few children suggested aged, elderly, or elders.

Children of all age levels, were able to identify the oldest man in a series of photographs depicting men of different ages. Nearly half of the children in the kindergarten level and all of the children above kindergarten level, were able to order the series of pictures from the youngest to the oldest correctly. On the other hand, prior to the fourth grade the children demonstrated limited ability to assign realistic age estimates to the drawings of the men.

When asked what they knew about old people, children often responded with physical descriptions such as, "they have gray hair," "they are short," or "they are wrinkled up." One fourth grader said, "I have a grandmother and when she was a teenager she wasn't so small - so I asked my mother if old people shrink when they get old and she said, 'I guess they do a little.'" Children also indicated their knowledge of the elderly by attributing behaviors to the elderly such as:

* They can't really walk very fast, they are not very strong.
* They have heart attacks at 90 and die.
* They go to church a lot.
* If they are crippled or something like that, they can be sent to homes that will help them.
* They have to have canes
* They talk funny.
* They have sprained backs and arthritis.
* They like to rest.
* They'll be dying sooner.
* They wear glasses.
* They use wheelchairs.

Question 2. How Do Children Feel About The Elderly?

In general, children did not perceive being old as positive. When asked what they could do with an older person, children gave stereotyped responses and expressed their preference for being with, and doing things with, younger persons.

Attitudes of children toward the elderly show a mixture of positive feelings of affect, and either stereotypic or negative attitudes about the physical aspects of age. Children assigned positive characteristics of rich, friendly, wonderful and good to old people, but also the negative characteristics of sick, ugly and sad. They said that old people were mean and that they felt sorry for them. They also indicated that old people were nice, friendly and one sixth grader said, "They are trusting to young children and respect young children."

Question 3. What Behaviors Do Children Report As Exhibiting Toward The Elderly?

Children gave responses that were stereotyped and dealt with behavior when asked what things they would help an old person do. This may be a result of their limited contact and knowledge of the elderly.

When children were asked, "What things would you help this person do?" they responded with such statements as, "Cheer him up and help him forget he's old - give him joy," "be happy," and "take him for walks."

Question 4. What Behaviors Do Children Report The Elderly As Exhibiting Toward Them?

When asked about things an elderly person could help them do, children gave answers that described stereotyped behaviors. This may relate to their limited knowledge and contact with the elderly.

When children were asked, "What could he (the eldest man) help you do? They made such comments as, "learn about life," "school work," "teach me things," "help me fix things," and "he's smarter than me, been living longer." Children also indicated that the elderly might help them do such things as make a work bench, go jogging, go out to dinner, dance, tell about farm life and his home, or teach children what he knows.

Question 5. What Contacts Do Children Have With The Elderly?

Children at all ages reported limited contacts and interactions with the elderly. Few children were able to identify elderly persons outside the family structure. The limited knowledge and contact with the elderly may be factor in the large number of

stereotypic response toward the elderly made by children. Most of the children were able to identify elderly persons within the family structure.

Children indicated engaging in active interaction with the elderly such as going fishing, flying model airplaines, going to the store, going to the zoo, going swimming, and hard work. More passive activities with the elderly were talking on the porch, watching T.V., playing cards and checkers, singing hymns, eating, and "getting into laps." Children also indicated "helping" behaviors in their contracts with the elderly. Children made such comments as, "I help them across the street," "bring in wood and feed the chickens," and "I stay with them in case anything goes wrong."

Question 6. What Differences Within Groups Of Children And Between Groups Of Children Do We Find In Terms Of Their Attitudes Toward The Elderly?

Differences in attitudes toward the elderly were found within groups of children. Children at all levels exhibited knowledge about the elderly that could be classified as affective, physical, or behavioral. Children in all grade levels perceived being old or growing old as both positive and negative, and reported their interactions with the elderly as active, passive or helping activities. The children also employed both evaluative and physical descriptive criteria for selecting their age preferences.

Differences in attitudes toward the elderly were also found between groups of children with grade level being the most important variable. Children at all grade levels had limited interactions with

the elderly, however, when these interactions were active activities more rural and farm and kindergarten to third grade children were involved. When these interactions were passive activities, more fourth to sixth grade children were involved and when the interactions were helping activities more second to fourth grade and black and rural children were involved.

Children have limited knowledge of alternative names for old people but this increased with grade level with more sixth graders being able to provide an alternative than students in the lower grades. Older children could also correctly identify the oldest man in a series of pictures depicting men of different ages. The problem of identification was with the pre-school and kindergarten children. The tendency to base a choice on physical descriptive statements increased with higher grade levels and the tendency to base a choice on evaluative statements decreased with higher grade levels.

Children in the first grade or above had little difficulty in ordering the series of pictures from the youngest to the oldest man, however, children below fourth grade had limited abilities in assigning age estimates to the four men. Children in the lower grades were also more negative about growing old and more negative about perceiving themselves as being old.

The majority of the children preferred to be with the youngest man represented in the four pictures. Preschoolers to second graders had a stronger preference for the younger men than did fourth to sixth graders who had a tendency to prefer the older man. The majority of the children used evaluative criteria in making their selection, however, second to fourth graders used more age-related

and altruistic criteria. The children's preferences reflected active interactions when the younger men were selected and tended to reflect passive interactions when the older men were selected.

There are differences between grade levels for children's concept of age with scores increasing with grade level. Children's concept of age scores also correlated with their conservation scores.

Question 7. What Perceptions Do Children Have About Their Own Aging And The Aging Process?

Children made few positive responses about their own aging and did not perceive being old as positive. When asked for an age preference the majority of the children selected the picture of the youngest man.

When asked, "How will you feel when you are that old?" most replies were "sad," "depressed," "terrible," "awful," "like be sick," "I'll feel mean at myself," "my face will feel crinkled, my eyes will feel blurry," or "sad because I'll be dying soon and I won't have the fun and joy I had when I was little." A few comments were, "kinda happy" and "I'll still probably feel like me."

When asked, "How do you feel about getting old?" some children responded positively such as, "I'd be more mature" or "I'd be like my grandfather and I'd trust people." Other children indicated acceptance by such comments as, "It is o.k. - we have to get old some day," or "If it's supposed to happen, it's supposed to happen." Many of the negative comments dealt with limited futurity - death. Children made replies like, "I don't want to get old - I want to stay

in this world longer," "I'm going to feel funny like falling over half dead," or, "I don't want to be old cause if I be old, I'll have to be buried."

Question 8. What Concepts Of Age Do Children Possess?

Children's concepts of age increased as they themselves increased in age. This supports the cognitive - developmental stage theory relating to the formation of age concepts by children. When given the Piagetian conservation tasks, it was found that children's concept of age was significantly correlated with their conservation score. This tends to further support the cognitive-developmental stage theory as it relates to age concepts.

Recapitulation

The association of the variables of sex, race, housing type and grade level with the students' responses to various questions on the subtests of The CATE were calculated. The only significant sex difference was that male students gave higher age estimates for the picture of the oldest man than did female students. There were few race or housing type differences. Black children and those living in rural areas, the large majority of which were black, reported more interactions with the elderly that were of a helping nature, and also reported more negative feelings about being old than did white children. There were consistent grade level differences in the affective, cognitive, and behavioral components of children's attitudes toward the elderly.

The findings from the administration of The CATE suggest:

1. Children at all grade levels had limited knowledge about the elderly.
2. Children had a positive affect toward the elderly but, in general, gave few positive responses about growing old themselves, and did not perceive being old as positive.
3. Children reported exhibiting oversimplified, conventional behaviors toward the elderly.
4. Children reported perceiving the elderly as exhibiting stereotyped or non-individualized behaviors toward them.
5. Children at all ages reported limited contacts and interactions with the elderly.
6. Differences in the affective, behavioral, and cognitive components of elderly were found within groups of children, however, the most consistent differences were found between

grade levels.

7. Children made few positive responses about their own aging and did not perceive being old as positive.
8. Children's concepts of age increased as they themselves increased in age, which supports cognitive-developmental stage theory as it relates to time concepts.

Curriculum Implications

De Beauvoir, in Coming of Age, concluded that "society's attitude toward the old is always deeply ambivalent (1973, p. 9)." In general, the results of the study of Children's Attitudes Toward the Elderly, would seem to support de Beauvoir's conclusions. The findings of the study did demonstrate that children's attitudes toward aging and elderly are indeed deeply ambivalent. Children report that the elderly are sick, sad, ugly, and bad, but at the same time are wonderful, rich, and friendly. This study illustrates that children's attitudes toward the elderly are complex, complicated and pass through various stages as the children grow, change, have experiences, gain information and learn from their total environment.

It seems apparent that the experiences and information children gain in the school setting contribute to the formation of their attitudes. The information presented by the media of the school, the textbooks, films, filmstrips, as well as the teacher and significant others in the school, who provide models for children to identify with and imitate, work together to form, change, extend and clarify children's attitudes toward the elderly. Schools are not in the business of teaching children a rigid set of values and attitudes, nevertheless, whether they are even aware of it or not, teachers, and all of the experiences they provide for children in the school setting, do influence how children will view their own aging and the formation of their attitudes toward the elderly.

Because the experiences they have in school do influence how children will view aging and the elderly, schools do have the responsibility to examine the ways they influence children's attitudes and to plan systematic

ways to foster the development of positive attitudes toward the elderly. If school systems do endorse the democratic principle inherent in our way of life that attributes value, worth and dignity to each human being, then they must begin to direct the experiences children have in school toward the development of positive attitudes toward aging and the elderly. It is only as children are able to understand and develop healthy attitudes that allow them to develop interpersonal relations with those older than they, that they will be able to realize their full potential. Only as children view their own aging and the elderly positively, will they be able to achieve the life, liberty and pursuit of happiness that are considered rights of each in our society.

The school's role in fostering positive attitudes toward aging and the elderly has far reaching implications for all of society. Children who have developed positive attitudes toward their own aging will be able to live fully each day of their own life. These children will have the ability to adjust to the changes in themselves and will have the self-confidence necessary to adapt to changes their aging brings.

In Great Britian, the National Old People's Welfare Council actively encourages the study of the elderly by the young. The Council believes that it is only as the young learn to adjust to their own aging will they be able to treat the elderly with dignity and respect. The social and personality problems of the aged in 40 years, according to the Council, will be diminished in proportion to the amount of involvement between the elderly and today's youth. The problems of caring for the elderly, for dependent parents, the Council believes, may be based on children's attitudes toward their own aging and the elderly.

Goals for the Curriculum

The study of Children's Attitudes Toward the Elderly can provide

assistance for school systems and teachers who are concerned about fostering children's positive attitudes toward the elderly. The findings offer implications for planning curriculum guidelines, for selecting goals and objectives, and planning activities and experiences that will enable children to face their own aging positively and relate to the elderly in fulfilling, productive and humane ways.

Increasing Knowledge

The fact that children reported having limited knowledge and contact with the elderly is a finding with potent implications for the design of the curriculum. Although children could identify elderly persons they had contact with and knew within the family structure, they reported limited knowledge of, or contacts with, the elderly outside the family. This finding suggests the need for children to increase their knowledge and contacts with the elderly. Only as children come to know, and have contacts with, the elderly in a variety of roles, activities and situations will they be able to challenge the stereotypic thinking they revealed as they responded to many of the items of The CATE. As children come in contact with the elderly, in a variety of fulfilling, satisfying roles and life styles, they will be able to question their ideas of the elderly as an unhappy, inactive, sad and sick unity of our society.

A variety of experiences with the elderly will help children to see that age is not a leveler of individual differences. When children have contact with a variety of elderly people, in diverse roles and situations, they will see for themselves that it is the diversity, rather than similarity, that characterizes the elderly. Authorities predict that the

diversity that now characterizes the elderly will increase in the future as better health, education and financial resources are possible. Recognizing the diversity found in the elderly, children will be able to dispel negative attitudes and challenge their stereotypic thinking about the behavior and physical characteristics of the elderly.

The Use of Affective Feelings

Across all of the subtests of The CATE, it became clear that children, in general, have complex and complicated sets of attitudes toward the elderly. Their attitudes are not singular or simplistic, but include a multiplicity of aspects. In general, children indicated that they feel very positively about the elderly in the affective area. They reported liking older people and viewed them as friendly, good and kind.

These positive feelings can be capitalized on in the classroom, and provide the base for the introduction of the study of the elderly. As children are, according to the findings of the administration of The CATE, receptive to contacts with the elderly, then the curriculum designed to foster positive attitudes toward the elderly can be built on actual experiences and activities with the elderly. Supporting children's expressed liking for, and interest in, the elderly, teachers can arrange contacts with the elderly through the RSVP, Foster Grandparent's Program or other organized groups of older persons.

Focus on Children

Children expressed distastes, sadness, regret and even fear of growing old themselves. When asked how they would feel if they were as old as

the oldest man pictured in The CATE, they responded, "I don't want to," "I want to stay in the world longer," "If I'm old, I'll be sick," "Not me!" In order to fully live each day of their life, children must learn to assess their own perceptions toward their aging and to adjust and adapt to the changes aging brings.

The experiences of the school can give children the support they need to develop the qualities of flexibility, adaptability and adjusting required to develop positive self-concepts toward the changes that occur in them. Children need to have concrete experiences that will permit them to understand that aging does not destroy the continuity of life. Experiences can be planned to illustrate the fact that aging does not destroy the continuity between what has been, what is and what will be in the future.

Learning to live fully every day of life is an art required by all. Schools have the responsibility to see to it that each day of a child's life is satisfying, fulfilling and that children have all of the experiences they need to feel valued, worthwhile and satisfied at every stage of life. As Erickson points out, a person's sense of integrity at old age arises from that individual's ability to look back on his life with satisfaction, instead of looking back on life as a series of missed opportunities and directions. Helping children to live fully today, to adjust to their changing, growing bodies and to learn the skills of adapting and becoming flexible to changes, is primary in helping children develop positive attitudes toward their own aging and the elderly.

Knowledge of Age Concepts

Children's knowledge of age concepts, as Piaget would have predicted, increase as their level in school increases. The administration of The CATE illustrated that children's age and time concepts are progressive and sequential and increase in accuracy as children grow. Thus, a curriculum designed to foster positive attitudes toward aging and the elderly would be designed to be sequential in nature and would follow the stages of cognitive growth suggested in the work of Piaget and the levels of knowledge of age determined by The CATE.

Valuing Attributes
Contributions and Diversity of Behaviors

Throughout the findings of the administration of The CATE, children's negative attitudes toward the physical aspects of aging and the elderly were expressed. Children described the elderly as "wrinkled, ugly, can't walk, chew funny, have gray hair, are crippled and haven't any teeth," all of which illustrate children's stereotyping of the physical characteristics of the elderly. Schools could provide the experiences children require to see, and understand that there are other attributes that are of great value in addition to physical characteristics.

Focusing on the values of diversity of all people, ethnic groups and races and in the children themselves, teachers can demonstrate that beauty means many things. The fact that people have attributes and make valuable contributions other than in the area of physical, can be illustrated. Our nation's focus on one acceptable form of physical beauty, that of the young, tall, slender Madison Avenue model, can be counteracted by

providing other models of beauty for the children to observe. The attributes age brings, and the contributions the elderly make to society, can be introduced to the children as things of value.

Again, introducing children to a diversity of elderly people, in many satisfying roles and productive situations, will enable children to see that although some elderly may use crutches, are crippled and without teeth, not all elderly possess these physical characteristics. Likewise, knowledge that the elderly do take part in a wide variety of activities; swimming, tennis, hiking, horseback riding, producing literature, music, art and many others, will allow children to challenge their stereotypic attitudes about the behavior of the elderly. The important thing would seem to be for the curriculum to help children see the elderly as a group of diverse people who do many different things, in a variety of situations and with a diversity of physical characteristics.

Based on these implications for curriculum development, three major goals for a curriculum designed to foster children's positive attitudes toward age and the elderly have emerged. These basic goals are to:

- provide accurate information about the elderly so that children may be able to form positive, realistic concepts and attitudes toward older persons.
- enable children to assess their perceptions of the aging process and see how it affects them.
- expose children to an unbiased look at the attributes, behaviors, and characteristics of the elderly in a wide variety of roles in order to avoid or extinguish the formation of stereotypic attitudes.

Before Beginning

Before beginning to implement a curriculum designed to foster children's positive attitudes toward the elderly, several critical aspects of the teaching/learning process must be considered. Remembering how children learn, keeping some of the basic assumptions about the nature of the teaching/learning process in mind and recalling the theory and research on attitude formation and change, provides guidelines for teachers as they plan to foster children's positive attitudes toward the elderly.

Activity

Attitude theory supports the concept of learning through experiencing. Children's experiences with their own aging and their actual experiences with the elderly, would form the basis of the curriculum. Only as children have first hand experiences will they have the material from which to reflect, categorize and draw relationships and conclusions. Supporting first-hand experiences are classrooms that are active places, full of materials and things and teachers that provide children with the time, support and opportunity to reflect on their first hand experiences.

Feelings

All learning is covered with feelings. The research on attitude formation and change suggests that feelings are extremely important in the development of and modification of children's attitudes. Attitudes and values are closely tied with children's feelings. Pleasant feelings,

success and reward have been shown to build favorable and long-enduring attitudes in children. On the other hand, when children experience failure and punishment, they develop negative and unfavorable attitudes. Failure and punishment even lead to the extinction of previously learned positive attitudes.

The meaning children attach to the elderly stem from their feelings about themselves. Teachers must be concerned with how children feel about themselves and support children in learning to understand and recognize their own feelings, communicate their feelings to others and learn acceptable ways of expressing their feelings.

Individuals

Children are so alike, yet each is so different. Each brings with them individual patterns of growth, varying rates of development and learning and a different background of experiences with the elderly. The experiences children have had, how they feel about the elderly and aging, must be explored before teachers begin to implement a curriculum designed to foster positive attitudes toward the elderly. Some of the questions taken from The CATE, could be used by teachers to explore individual children's understanding, past experiences and attitudes about the elderly. On an informal basis, or during group discussion time, teachers might ask children to respond to questions such as:

What older people do you know?

What could you help an older person do?

How do you feel about getting old?

Are you and your grandmother the same age? Why?

How old were you when you were born?

The children's answers will give teachers clues for selecting appropriate goals and objectives, and planning learning experiences and activities.

Involving Parents

Gaining the cooperation and support of parents is important when teaching about the elderly and aging. Our nation's treatment of the elderly, and the stereotypic attitudes toward the elderly that are common, are certainly unsuitable and should be altered, nevertheless, the school and home must be in total agreement on the attitudes and values that will be fostered in the classroom. Further, as the family is an important, influential source of children's attitudes, parents need to be fully involved in the school's program if the curriculum is to be successful.

The Teacher

Research on how children acquire attitudes and values suggests that children learn their attitudes about the elderly as they identify and imitate others who are important to them. Because children identify with teachers and try to imitate the attitudes and behavior of the teacher, it's important for teachers to be able to demonstrate prosocial attitudes, worthy of imitation. For this reason, teachers, before beginning to implement a curriculum about aging and the elderly, might ask themselves:

What older people do I know?

How do I really feel about getting old?

Do I like to be with elderly people?

Instructional Materials

The fact that the materials used in the school are important sources of information for children's attitude formation has been confirmed by the studies conducted by Bnai Brith and other organizations. These studies confirmed that biases against groups does permeate the instructional materials used in the schools and that these materials do affect children's attitudes. Thus, it is important for the teacher to examine the instructional materials used to ascertain that the elderly are being portrayed in ways that are realistic. Teachers should attempt to select instructional materials that depict the elderly in a variety of productive roles, situations and a diversity of activities.

Approaches to Teaching

There is not one best approach for teaching about aging and the elderly. A combination of several approaches would be realistic and appropriate. At times, lessons can be designed to promote the obtainment of specific goals and objectives; these lessons would be scheduled throughout the year and would be sequential in nature. Other lessons could be integrated into the regular experiences of the total school curriculum. These lessons would use all of the other content of the school curriculum to foster knowledge of the elderly and to provide information for children about the elderly and aging. Still other lessons would be based on incidental, spontaneous

events that occur throughout the school day. Any incident - children's birthdays, observing an elderly person crossing a street while on a field trip - could be capitalized on to increase children's knowledge of the elderly.

The results of this study would also seem to suggest the need for a spiraling, sequential curriculum. A curriculum that would present to children the most fundamental, basic understanding of aging and the elderly. These basic understandings would be introduced in the nursery school and kindergarten and would serve as a foundation for children's learning in the first and second grade. Likewise, the experiences and activities introduced to the children in the second and third grade would serve to lead the children into experiencing and developing the more complex concepts, attitudes and understandings that would be presented at the fifth and sixth grade levels.

It seems feasible that a curriculum designed to foster children's positive attitudes toward the elderly would be appropriate to introduce in the schools. A curriculum based on children's attitudes and knowledge of aging and the elderly that is consistent with current theory and research on attitude formation shoould be successful in helping children to form the understandings and attitudes that will allow them to challenge their stereotypic thinking about the elderly and aging.

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ABSTRACT

CHILDREN'S ATTITUDES TOWARD THE ELDERLY[1]

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The purpose of this study was to 1) design an instrument that would assess children's attitudes toward the elderly and the aging process, 2) employ this instrument with children ages 3-11, and 3) use the information obtained to develop a curriculum guide designed to increase children's knowledge of aging and the elderly that would foster positive attitudes toward the elderly and the aging process. The study was funded by a grant from the American Association of Retired Persons, National Retired Teachers Association, Andrus Foundation, and was conducted in cooperation with the Department of Early Childhood/Elementary Education, College of Education and the Center on Aging, Division of Human and Community Resources, University of Maryland.

Instrument

The first part of the study consisted of developing an instrument that would assess Children's Attitudes Toward the Elderly. The CATE was developed to examine the cognitive, affective and behavioral components of children's attitudes. It is an individually administered test that consists of four sections:

1. Word Association subtest.
2. The Semantic Differential subtest.
3. The Picture Series subtest.
4. The Concept of Age subtest.

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[1] This study was funded by a grant from the American Association of Retired Persons. The technical report is on file with this agency. Other reports of this research are being prepared for publication.

Administration of the CATE

The CATE was administered to 180 children in nursery school through sixth grade. Twenty children were randomly selected from each age level from 3 years of age to eleven years of age. The responses of the children were coded and scored. Chi-Square, T-tests, ANOVA and correlational techniques were included in the statistical analysis of the data. The results of the administration of the CATE suggest the following:

1. Children at all age levels apparently have limited knowledge of older people. Although most children were able to identify an elderly person within their family structure, they could not identify elderly persons outside of the family structure. They also reported limited interactions with the elderly and could not give any alternative names for the term 'old people.'

2. In general, children gave few positive responses about growing old themselves, and did not perceive being old as positive. When asked what they could do with an older person, children tended to give stereotyped responses and expressed their preference for being with and doing things with younger persons.

3. Children of all age levels, were able to identify the oldest man in a series of photographs depicting men of different ages. Nearly half of the children in the kindergarten level and all of the children above kindergarten level, were able to order the series of pictures from the youngest to the oldest correctly. On the other hand, prior to the fourth grade the children demonstrated limited ability to assign realistic age estimates to the drawings of the men.

4. Attitudes of children toward the elderly show a mixture of positive feelings of affect and either stereotypic or negative attitudes about the physical aspects of age. Children assigned positive characteristics of rich, friendly, wonderful and good to old people, but also the negative characteristics of sick, ugly, and sad.

5. When given the Piagetian conservation tasks, it was found that children's concept of age was significantly correlated with conservation score. Children's concepts of age increased as they themselves increased in age.